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ABSTRACT

Information about what very young children know about careers is reviewed in order to determine levels of knowledge and to trace the development of career awareness. Then the following career awareness curricula for very young children are described: public and commercial television, instructional television, commercial film, and classroom-based instruction. Recommendations are made for research activities and educational programs which have the potential for increasing career awareness in young children. The goal of reducing occupational, racial, and sexual stereotypes is suggested in order to stimulate children to consider a wider range of occupations as well as to increase equity in the world of work. (CH)

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THE DEVELOPMENT OF CAREER AWARENESS IN YOUNG CHILDREN

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Cambridge, Massachusetts

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2

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TABLE OF CONTENTS

Acknowledgements iii

I. Summary 1

Definitions 1

Existing information 1

Recommendations 2
Research 2
Programmatic activities 2

Outcome 4

II. The development of career awareness 4

Theoretical approaches to occupational choice 6
Social, political, and economic forces 6
Occupational demands 7
Personal characteristics 7
The intersection of causes 9

The focus on career education for adolescents 10

Career awareness in young children 11
Concepts of career awareness 12
Information about careers (Clusters 1,2,3) 14
Attitudes about careers (Clusters 4,5) 16
Occupational values 17
"Appropriate" occupational roles for others . . 18
"Appropriate" occupational roles for one's self 18
Research recommendation 1 22
The developmental course of career awareness 22
Predictiveness of early career awareness 23
Research recommendation 2 24
Early influences on career awareness 25
External influences on career choice 25
External influences on career information . . . 26
External influences on career attitudes 27
Internal influences on career awareness 28
Programmatic activity recommendation 1 31
Programmatic activity recommendation 2 35
Combinations of influence 36
Research recommendation 3 37
Programmatic activity recommendation 3 37

Conclusion 40

III. Existing career awareness curricula 41

Public and commercial television 43
Sesame Street 44
The Kingdom of Could Be You 45
Vegetable Soup 45

Instructional television 46
Career Awareness 47
Countdown to the 70's 48
Design for Living 49
Whatcha Gonna Do 50
Bread and Butterflies 52

Commercial film 53

Classroom-based instruction 54
Curricula with evaluations 56
Ohio state career development program 57
Similar curricula 58
Curricula under development 59
Curricula providing role models 60

Conclusion 60

References 62

Career Awareness Conference Participants 72

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I. SUMMARY

In this paper on the development of career awareness in young children we pursue three goals:

1. To gather together and review information about what very young children know about careers and to trace the developmental course of that career awareness;
2. To describe existing career awareness curricula for very young children;
3. To recommend research and educational programs which have the potential for increasing career awareness in young children.

Our ultimate purpose in pursuing these goals is to reduce the occupational stereotypes based on sex and race which many children hold. Such a reduction might encourage children in the present to consider a wider range of occupations and in the future to increase the equity of the world of work in which they participate.

DEFINITIONS

We consider career development to be composed of three separate, but interacting, factors: information, attitudes, and skills. By information, we mean knowledge of the range of occupations in our society, the activities required by these occupations, the life patterns associated with them, and the characteristics of the people who most often hold them. By attitudes, we mean the types of activities one values for one's self and for others, the work ethic one holds, and the opinions one holds of one's own and others' capabilities and potentialities. By skills, we mean the interpersonal, cognitive, and decision-making skills which are employed in, or facilitate, attaining and performing any given occupation. Our focus will be on information and attitudes, which we feel constitute career awareness in young children.

EXISTING INFORMATION

We shall review the career information and attitudes of children between the ages of three and twelve, their developmental course and predictiveness for later occupational orientation and attainment, and internal and external influences on career awareness. We then review curriculum materials on career awareness which are presented through public and commercial television programs, instructional television programs, commercial films, classroom-based non-media material and lesson plans, and school-based interchanges with people holding various occupations. In keeping with our goal of reducing occupational stereotypes based on race or sex, emphasis in both sections is placed on similarities and differences in the career

awareness of and curricula for boys and girls and children from various ethnic groups within the United States.

Our review of the existing research literature provides clear indications that young children know about relatively few of the many potential occupational roles available to them. They do, however, understand the status hierarchy of the occupations they know about and largely accept the traditional assignment of men and women into this structure. Because we do not find young children's easy acceptance of the present occupational structure to be desirable, we believe it is important to learn more about early career awareness and to develop curricula informing children of the full range of occupations available to adults, persuading them of the ability they and others have to hold a wide range of occupations, and, eventually, to encourage them to create a more equitable occupational system in which the restrictions associated with sex and race are eliminated.

RECOMMENDATIONS

RESEARCH

Our current state of knowledge, as well as the state of the work-a-day world, allows us to recommend three programmatic activities, but it does not provide us with sufficient information in areas we deem critical to the development of fully adequate career awareness programs. Consequently, we recommend that three lines of research be pursued in the coming years. First, we recommend that more knowledge is needed about young children's perceptions of the opportunity structure in occupations, both for themselves and for others. A simple description of this knowledge would allow us to pinpoint those groups, belief systems, and informational areas most in need of educational effort. Second, we recommend research on the developmental course of occupational orientation and its implications for actual occupational choice. At present there is little research that traces the course of children's orientations toward particular occupations or types of occupations nor is there any indication of the significance of early orientations for later tentative or actual occupational choices. Finally, we recommend additional research on the ways in which family, schools, and the occupational structure in the child's community combine with information about careers received through television to influence the development of career awareness. If we are to achieve actual changes in occupational attainment, we must learn more about the ways in which each agent influences career development, the areas each influences, the developmental periods when each can be most influential, and the ways in which the several influences can act in concert to produce various outcomes.

PROGRAMMATIC ACTIVITIES

We believe that there are three programmatic activities which should be undertaken immediately, one of which should be combined with a supportive research program. First, we recommend that career awareness material, such

as that produced for Sesame Street, Vegetable Soup, and the Kingdom of Could Be You, should be expanded and made more widely and continuously available to children between the ages of three and eight. These television series have all produced educational and entertaining material for children which presents a range of occupations and suggests that these occupations are available to people of different sexes and racial groups. We suggest capitalizing on these available program materials and proven production groups by supporting their production of new segments, more frequent broadcasting of existing segments within the series for which they were originally produced, and distribution of the segments to other series, to station managers as public service announcements, and to schools. These activities can help reduce ignorance about career opportunities -- surely one of the more capricious and controllable factors in the development of career awareness.

Second, we recommend that all existing career awareness curricula, regardless of the medium by which it is presented, should be analyzed for their treatment of all ethnic groups and both sexes and for information about their ability to reduce stereotyping of occupational roles be made readily available to potential users. Such information is very difficult to obtain from most existing curricula but it should not be too difficult a task to compile it. Since existing curricula will continue to be used, information about their ability to reduce occupational stereotyping should be available. Such information serves the dual functions of making users aware that these are critical issues in teaching career awareness and of making it easy for users to evaluate these aspects of any curriculum.

Third, we recommend the development of a new career awareness program which combines the influence and resources of the mass media, the family, and the school, and the design of research to guide program development. We recommend the participation of media, family and school in this program, because we believe that career awareness and occupational attainment develop through a confluence of factors. The mass media, particularly television and film, provide us with some of the easiest opportunities to guarantee that our children see men and women of all ethnic groups in a wide range of both traditional and nontraditional occupations. They alone can reliably display to almost all children concrete models of people who do not hold traditional occupations. Parents, who are more likely to model traditional occupational roles, are particularly important socializers of young children and are reported by adolescents and young adults to be the primary influencers of their occupational choices. Finally, schools provide the opportunity for implementation of coherent career awareness programs which provide children with opportunities to reflect upon information and attitudes acquired elsewhere, to acquire additional information and attitudes, and to practice skills which are necessary to career development. The most effective career awareness program must surely be one which combines these several socialization agents together in a manner which capitalizes on the unique capacities of each.

OUTCOME

Suppose we do learn more about the early development of career information and attitudes and about ways to expand information and correct misleading stereotypes. Further, suppose that this expanded awareness could be carried forward and built upon into adolescence and young adulthood so that when career decisions are made, they are based on a wider vision of careers that exist now or may emerge in the future, especially for women and minorities. Against the powerful political and economic obstacles that block occupational equality for women and minorities, will this expansion of career awareness really matter? Until we try this route, it is impossible to tell. But there is much that may be gained from educating young children about careers and certainly little to be lost in trying.

II. THE DEVELOPMENT OF CAREER AWARENESS

Most efforts to provide career education begin in adolescence when an individual approaches the point of career decision. In this paper, we contend that the effort must begin much earlier and propose some means of achieving this. Our plan is:

1. to gather together and review information about what very young children know about careers and to trace the developmental course of that career awareness.
2. to describe existing career awareness curricula for very young children.
3. to recommend research and educational programs which have the potential for increasing career awareness in young children.

Throughout the paper, we often focus upon occupational stereotyping by sex and ethnicity, believing that this is one of the more flagrant inequities in the present occupational structure. We will present evidence that even very young children are aware of some of these stereotypes and accept them, which can only serve to perpetuate traditional employment patterns within the United States. We believe that efforts at early career education are worthwhile if they eventually lead children to choose their adult occupations more wisely, granting to themselves and others a latitude of choice not presently found among adults. Early career education, in conjunction with social, political, economic, and legal changes in our society, can promote a new and more equitable occupational structure.

Since nearly all the males and half of the females in our society work for thirty to forty years, occupation determines what may matter most to an individual -- how one spends the greatest portion of one's time on earth. One's occupation consumes many hours per week for about half one's life. In addition it affects standard of living, hours of leisure, set of friends, where one lives and what kind of family life one has. It channels one's ultimate contribution to society and one's satisfaction or dissatisfaction with that contribution.

Occupation defines status, both in one's own eyes and in the eyes of others -- with the prestige attached to different occupations showing a remarkable similarity in almost all the countries of the world. Even after the thirty- or forty-year period of employment, one's occupation remains one's defining characteristic: "retirement" is defined as the absence of occupation.

It is beyond dispute that women and minorities fill a disproportionately large number of lower-status occupations, earning lower salaries and receiving less recognition for their contributions to society (e.g., Waldman and McEaddy, 1974). For example, the average full-time salary for all male workers was $7,664 in 1968, while the full-time salary for all working women was $4,457 (U.S. Department of Labor, 1970). Although absolute amounts of income have risen since that time for both men and women (accompanied, of course, by even larger increases in the cost of living), women remain at the same relative disadvantage.

This relative disadvantage is shared, of course, by members of minority groups, where minority groups are defined as peoples of color rather than as white ethnics. The causes of the occupational disadvantages experienced by minorities probably differ from those for women, but some of the outcomes are similar. For example, the average yearly salaries for minority men and women are lower than those for white men: minority men average about 65% of a white male's salary and minority women, about 45% of a white male's salary (Kreps, 1971). The median combined income of a working husband and a working wife in a black family is less than the median income of white families whether or not the wife works (Gump and Rivers, 1973; Hill, 1971; Monthly Labor Review, 1975).

These salary differentials between men and women and between whites and minorities are due both to the fact that the various groups are disproportionately distributed among occupations and to the fact that the various groups often receive different salaries when they are similarly employed. This latter inequity of unequal pay for equal work is relatively easy to redress through the enactment and enforcement of appropriate laws. The former inequity of occupations being closed to women and minorities, is much more difficult to redress because it requires changes in all segments of the society in aspirations, education, and stereotypes. Such changes may be facilitated by career education programs; however, the necessary changes probably differ for each sex and ethnic group.

Because the range of personal and social determinants of one's occupation is so great and varies for each individual, we have little general understanding of why inequities persist. The individual, often without clear reasons, moves toward certain careers and away from others, ordinarily failing to consider many other options because of their unfamiliarity or invisibility. At the same time, several social, political, and economic gatekeepers operate to facilitate or block the person's movements in these different directions. Where one happens to grow up, the careers that were possible or prominent there, the occupations of parents and neighbors, the formal and informal training opportunities in the community, the job

opportunities available in the community, all these forces seem to conspire to put the career decision beyond a person's conscious control. The operation of these many factors is indeed complex. Existing theories of vocational choice do, however, provide some leads in understanding the complexities.

THEORETICAL APPROACHES TO OCCUPATIONAL CHOICE

Three major theoretical approaches to occupational choice are evident in the literature, with each highlighting one aspect of career involvement: (1) social, political, and economic forces, (2) occupational demands, and (3) personal characteristics. What is finally needed, and not yet available, is a theoretical structure which incorporates all three approaches into one coherent whole.

SOCIAL, POLITICAL, AND ECONOMIC FORCES

Powerful social, political, and economic forces affect occupational choice. Operating in America today, they are all implicated in some way in employment patterns and the manner in which particular individuals fit into those patterns. Although sociologists, political scientists, government officials, and economists have been attempting for decades to decipher the operation of these forces, they are especially difficult to comprehend, shifting continuously and affecting individuals differently at different points in their careers.

A partial list of social influences -- which themselves may reflect political and economic conditions -- conveys their complexities: parental, peer, and school influences; occupational models available in the community, including parents, relatives, and neighbors; general standard of living in the surrounding community; rate and direction of social mobility; ease or difficulty of migration; availability of training and apprenticeship opportunities; desirability of local residential areas. Such influences were discussed as early as the 1950's by sociologists such as Miller and Form (1951), who summarized them in their discussion of the effects of (or accidents of) birth, and Caplow (1954), who capsulated them into the effects of parents and education. Today Jencks *et al.* (1972) continue this tradition.

It seems likely, however, that the foremost social reason for the unequal occupational status of women and minorities is obvious and persistent job discrimination, i.e., the unwillingness of employers to accept female and minority employees on equal terms with white males. It seems likely that the bases for such discrimination may differ somewhat for females and minorities, but we have little understanding of the fundamental causes of discrimination. Some recent political changes can be noted; pressures against job discrimination have mounted, "affirmative action" programs have been implemented. It remains to be seen, however, how much effect these recent actions will have.

Political forces at the federal, state, and local levels all affect employment patterns and occupational choice. The partial or complete government regulation of certain industries, the absence of regulation of others, political patronage in job appointments, government control of certain job-training opportunities and not others -- all are examples of political influences. Economic forces are just as massive and complex: the general state of the economy at both national and local levels, the shifting demands for certain goods and services, the cycles of inflation and recession, the personal finances of individuals that make access to only certain occupations feasible.

OCCUPATIONAL DEMANDS

Another approach to understanding the complexities of occupations is that of industrial psychologists, engineers, and vocational analysts who attempt detailed observations and descriptions of what activities are demanded by different occupations, how the efficiency of these activities can be improved and their cost reduced. As helpful to industry as these descriptions and recommendations may be, they rarely help to make career choice more informed on a widespread scale. Seldom are career choices made by matching the demands of various occupations with the personal skills and interests of those selecting them, although the rationality of such a decision making process is apparent.

There have in the past been descriptions of occupational activities which have guided vocational education programs and testing, as well as one or two current attempts to provide such a structure. The federal Dictionary of Occupational Titles (1949) and its revision (Fine and Heinz, 1957, 1958) served such a function. Today, the fifteen occupational clusters devised by the Office of Education have helped structure some of the career education curricula which we review later. Some theorists, most notably Holland (1966), have analyzed the characteristics of occupations, and personal hierarchies of habitual or preferred ways of dealing with the necessary tasks of living, in order to test the idea that individuals choose occupations whose activities match their more habitual or preferred styles (see Osipow, Ashby, and Wall, 1966 and Stockin, 1964, for sample tests of this theory). Such approaches may be helpful in structuring career education curricula and counseling and deserve fuller attention than they have as yet received.

PERSONAL CHARACTERISTICS

Educators, psychologists, and vocational-guidance experts also have studied career choice, focusing primarily upon the personal characteristics that seem to operate. The effect of certain personal characteristics upon career choice is well-established, including the individual's "preferences" and "interests," "abilities" and "aptitudes," "aspirations" and "expectations," "motives" (e.g., Roe, 1956) and "values," "self-concept" and "feelings of competence" (e.g., Ginzberg et al., 1951; Super, 1957; Tiedeman and O'Hara, 1963).

Despite the many personal attributes that have been considered, other more pragmatic individual characteristics have been largely ignored. How much does the individual know about what careers exist and about their appropriateness and accessibility? How much does the person know about the occupational realities and their fit to personal attributes? Given the very limited first-hand experience that children receive concerning the realities of occupations, their knowledge of what occupations exist and what personal demands they make is apt to be incomplete, distorted, and stereotypic. The application of individual "interests," "motives," "values," and the like to such limited knowledge about occupations can only result in limited or inaccurate career decisions.

Other pragmatic personal characteristics involve the family. What financial resources does a family have to invest in the training and job entry of its members? How willing is the family to make these investments? When family resources are insufficient for the training of all its members, how are decisions made about fair allocation? Such personal considerations have not yet been studied.

Perhaps the most influential personal characteristics in career choice are sex and minority-group status. Available evidence clearly indicates that white girls and boys differ in their occupational aspirations and in personal characteristics that seem most related to occupational attainment. There is considerably less comparative information on the personal characteristics and occupational aspirations of the various minority-group and majority children and of the two sexes within each minority group. What there is is mixed in its conclusions. Thus, while it seems likely that sex and minority-group status are highly influential in occupational choice, our conclusions about minority children must be more tentative than those about girls.

Sex differences in personal characteristics of white children appear very early in their games and "avocations." Girls' games usually involve low risk, taking turns, indirect competition, accommodation, and inclusiveness whereas boys' games emphasize high risk, physical contact, intrusiveness, and competition leading to a clear designation of winners and losers (Lee and Gropper, 1974; Sutton-Smith, 1972). From earliest childhood, boys are expected to develop instrumental competencies, while girls develop interpersonal sensibilities and skills (Baumrind, 1972; Maccoby and Jacklin, 1974).

Even in the absence of specific information about occupations, girls in the early grades seem to know that they are operating at a disadvantage. We have little evidence on children as young as preschoolers, but girls in early elementary-school grades show a far narrower range of aspired-to occupations than do boys, with most studies reporting that boys select two-to-three times as many different occupations as girls and that roughly two-thirds of the girls at this age level choose either teacher or nurse (Boynton, 1936; Clark, 1967; Deutsch, 1960; Looft, 1971; Nelson, 1968; Siegel, 1973) From kindergarten through the sixth grade, girls report that women can work only in certain occupations, such as nurse, waitress, or

librarian, while men are not similarly limited (Schlossberg and Goodman, 1972), and it is much more common for girls than boys to suggest that spouse and parent will be their major adult occupational roles.

The effects of minority-group status are generally less clear and certainly not differentiated for each of the major minority groups within the United States. While occupational attainment is clearly lower for minorities, the aspirations of minority parents for their children (Baughman and Dahlstrom, 1968; Cloward and Jones, 1963; Deutsch, 1965; Gurin and Katz, 1966; Herriott and St. John, 1966; Reiss and Rhodes, 1959; Scanzoni, 1971) and of young minority children for themselves (Antonovsky, 1967; Deutsch, 1960; Gray, 1944; Kuvlesky and Thomas, 1971; Nelson, 1968) are generally as high as those held for and by white children. In fact, when social class and intelligence are held constant, aspirations may be higher for blacks than for whites (Barnett and Baruch, 1973; Boyd, 1952; Nelson, 1968). However, there also is some indication that black children and presumably other minority children, particularly prior to the black power movement, may devalue their own group in comparison to whites (Crooks, 1971; Koslin et al., 1969; Morland, 1962, 1972) and that blacks underestimate their own abilities and other personal qualifications to advance educationally and to enter a high status professional occupation (e.g., Wylie, 1963). Thus, for minority children, we do not see the same early acceptance of lower occupational attainment that we saw for girls, although there may be a similar devaluation of their own competency. Surely both groups come to an early recognition of the stereotyped and discriminatory patterns of occupational attainment among adults today, and this must at some point affect their own aspirations and expectations.

THE INTERSECTION OF CAUSES

As important as the expansion of early career awareness may prove to be, it is the intersection of this awareness with many personal, social, and economic forces that ultimately must be understood. This combination of influences upon career choice is illustrated in several studies (e.g., Wright et al., 1972) that compare the low occupational status of Mexican-Americans with that of other groups. Personal characteristics are implicated: language difficulties, subcultural values (e.g., non-competitiveness) that are highly respected in their subculture but hinder achievement in the American mainstream, lack of knowledge of appropriate opportunities for training and job access. Social and political forces operate against Mexican-Americans: fewer supporting formal organizations in the community, fragmented political activism within the local community, and most important, job discrimination in employment. Economically, a low standard of living perpetuates itself from generation to generation, with job discrimination creating the poverty of an earlier generation which virtually guarantees poverty for the next.

Such complex forces operate, in one form or another, in the career decisions of all people. However, researchers from each discipline study only some separate and partial aspect, failing to combine their partial understandings into a sufficiently complete and realistic understanding

to guide remedial action. The absence of a broad perspective has prevented our understanding the realities of career choice, especially for women and minorities. For the most part, small groups of middle-class male adults of average or above-average intelligence have been studied, with women and minorities neglected. For women, this has meant that several salient aspects of employment have been largely ignored: age of entry into an occupation, time span of participation (such as number and spacing of interruptions), degree of participation (such as various schedules of part-time involvement), and fulfillment of the demanding roles of worker, spouse and parent. For women and minorities this has meant little attention to the ways in which one deals with high aspiration and achievement in a larger environment which often expects little from one and may block whatever appears.

Research on career awareness also is limited in other ways. Understanding career decisions and their consequences almost demands longitudinal analyses, yet such studies rarely are done. Methods for eliciting information usually employ forced-choice techniques with standard coding categories used to classify the data; we do not know how different the results of these studies would be if more open-ended procedures and other coding schemes were used. The scope, refinement, and precision of our research seem, for several reasons, far less than is necessary to an understanding of career choice.

THE FOCUS ON CAREER EDUCATION FOR ADOLESCENTS

Thus, we know little about how career decisions are made, their antecedents, and the various influences upon them. With so much uncertainty, it is easy to see why the vast majority of efforts in career education have focused on adolescents and young adults. These are the most visible decision points with regard to occupation, the times when one chooses an occupation and embarks upon it or upon the training necessary for it. It is also assumed that occupations are only visible enough to adolescents and young adults, but not to younger children, to allow them to gather meaningful information about careers and to begin to make informed choices.

This emphasis on adolescents and young adults has pervaded programs of career education, including the experimental efforts supported by the Career Education Development Task Force of the National Institute of Education. It is still too early to estimate the eventual degree of success that these programs will have, but, despite some sporadic achievements, these programs of career education for adolescents and young adults cannot yet claim any record of sustained accomplishment.

The reasons for this limited success remain unclear, but several possibilities seem plausible. First, perhaps the assumptions upon which they are based are weak, to intervene at exactly the time when career decisions are being made is perhaps too late. Informed decisions require extended periods

of information gathering, reflection, and testing before final choices can be reached. Second, perhaps the phenomenon of career choice is affected by such massive social, political, and economic forces that any intervention program that cannot contend directly with these forces will inevitably have little observable effect on occupational attainment. Third, we probably do not yet know enough about the processes of career education to construct fully effective intervention programs for adolescents and young adults.

We subscribe to one additional explanation for the limited success of career-education programs for adolescents and young adults: that we have failed to consider the precursors to career choice and thus do not understand the process of career education as it develops longitudinally. We assume that many adolescents and young adults reach the point of career choice with insufficient or misleading information and with stereotyped attitudes about occupations and those who hold them. Our failure to take account of the early antecedents to career choice may be especially damaging to women and minorities. In addition to the other obstacles to occupational equality for women and minorities, it is possible that they do not at adolescence choose certain occupations because they do not know about them, do not realize that the occupation may be accessible to them, or do not understand the steps that must be taken to prepare, enter, and succeed in an occupation.

We are not advocating, here, to propel children, at younger and younger ages, toward specific career decisions. We are advocating, however, a fuller understanding of the development of career awareness in young children. This would allow us to introduce appropriate information about occupations and who holds them and to convey relevant values, skills, and self-concepts while children are forming their concepts of the world of work. Then, when career choices are made later, they can be made on rational grounds by skilled, self-confident individuals rather than being based on limited information, misinformation, or stereotyped information held by inadequately trained people with self-limiting expectations.

CAREER AWARENESS IN YOUNG CHILDREN

Thus, it is important to consider career awareness among very young children and to trace its development into adolescence and adulthood. We have two primary reasons for believing in the importance of early career awareness, the first being an argument by analogy. It is clear that many important attitudes are formed early and persist relatively unchanged throughout life. For example, sex-role attitudes determine many of the choices one makes through life and the content of these stereotypes is acquired by about the age of seven (Bardwick, 1971; Kohlberg, 1966; McCandless, 1969; Mischel, 1970; Mussen, 1969). Attitudes toward members of other cultural groups are also discernible at or before this age (e.g., Goodman, 1964; Porter, 1971), as are the precursors of important

political attitudes (e.g., Hess and Torney, 1967; Hyman, 1956) and moral judgments (e.g., Kohlberg, 1969). This early acquisition of important and lasting attitudes suggests that an awareness of careers and orientations toward them may also be formed quite early in development.

The second reason to study occupational awareness in young children is the recent direct evidence (cited later) that children as young as five do have attitudes about careers and occupations as well as opinions about the appropriateness of certain careers for them. The fact that many of these attitudes are based on insufficient information, misinformation, or stereotyped perceptions of women and minorities increases the need to provide young children with full and correct information about careers.

CONCEPTS OF CAREER AWARENESS

Even for children as young as three to five years of age, "career awareness" may be composed of several different, but interacting, clusters of information and attitudes.*

INFORMATION

Cluster 1: Information about occupational behavior:

What occupations exist in our society?
What do people do in these occupations?
What skills are required by each occupation?
Who performs what kinds of work?

Cluster 2: Information about antecedents and social consequences:

How do people come to occupy these positions?
What interests and values lead to particular occupations?
What training is needed?
How is access managed?
What are the lifestyles of people in various occupations?
What is achieved as a consequence of various forms of work?
What are their limitations?

Cluster 3: Information about the self:

What are my capabilities and potentialities?
What are my interests?
What are my values?
What are my tangible and intangible resources for training?

*Although each cluster is illustrated by a series of questions, we do not imply that people ask such questions directly. Rather, these questions and answers are often vague and diffuse, but still affect career choice.

ATTITUDES

Cluster 4: Attitudes about others and their work:

What values are placed on various types of occupations?
What are the capabilities and potentialities of others?
What are the "appropriate" roles for various types of people?

Cluster 5: Atti udes about the self and work:

What types of occupations do I value?
What are the "appropriate" roles for myself?
What value do I place on work per se?
What value do the intrinsic and extrinsic rewards of work have?
What value do I give my own capabilities and potentialities?

Along with the information and attitudes in the five preceding clusters, total career development must also include the development of interpersonal, intellectual, and decision-making skills useful in attaining and performing any occupation. Such skill acquisition, however, will not be considered in this paper, since adequate education and socialization of young children would necessarily provide the fundamentals for all the specific skills which might be developed later when tentative occupational choices are being made.

Other definitions, closely related to our own for career awareness, have been offered. For example, Wise, Charner, and Randour (1975) have designed a conceptual framework to guide their efforts in the National Institute of Education's Career Awareness Division. Within their framework, their category of "Occupational Knowledge" corresponds to our Cluster 1 (Information about occupational behavior) and Cluster 2 (Information about antecedents and social consequences):

> "Occupational Knowledge: factual information about the skills and educational requirements of an occupation, the nature of the occupation in terms of its processes and products, its potential for access, advancements, and benefits." (p. 3)

Further, they offer these elaborations of our Cluster 5 (Attitudes about the self and work), in which they stress preferences and self-concept:

> "Occupational Preferences: the set of occupations or adult roles which fall on a continuum of preference, interest, or liking.
>
> Occupational Self-Concept: the set of beliefs an individual holds about the abilities he or she has and how successful he or she would be at an occupation or occupational role." (p. 3)

Finally, they offer a category which combines elements of our Clusters 4 and 5:

> "Occupational Values: beliefs concerning the status of jobs and what an individual should or should not consider important with respect to job characteristics." (p. 3)

These authors do not include a category similar to our Cluster 3, presumably because their latter three categories assume self-awareness of one's preferences, values, and self-concept. We have chosen to separate these elements into attitudes and information on the assumption that many attitudes operate at a relatively unconscious level and that full career awareness includes conscious acceptance of one's attitudes as information about the self.

In the conceptual framework developed by Wise, Charner, and Randour (1975) the elements of career awareness are viewed in the context of influencers of that awareness (family, peers, school, media), decisions about occupational choice (identifying and assessing opportunities), and occupational attainment itself.

In suggesting our various clusters or elements of career awareness, we are not proposing that young children will learn them in any particular order. We expect that children as young as preschool age will expand their concepts about what is done in specific occupations if this is made visible to them, or that they will learn generalized social attitudes toward work if this is what we choose to teach them. Several studies document the early development of awareness of many different occupations, of their social consequences, and of their "appropriateness" for different people, and it is to these that we now turn.

INFORMATION ABOUT CAREERS (CLUSTERS 1, 2, 3)

We have very limited knowledge of the career information of children between the ages of four and twelve in any of our three information clusters. Some work has been done on children's knowledge of the skills required by various occupations, and information on children's knowledge of the existence of different occupations can be extrapolated from studies of children's occupational aspirations. There are also a number of studies of children's understanding of the status hierarchy of occupations in the United States. We have not, however, been able to find any studies (except those of sex-role acquisition) of the development of information in our Cluster 3, information about the self, which may be directly related to occupational orientation. As with all of our information on career awareness, there is limited understanding of ethnic differences in such information and somewhat better understanding of sex differences, particularly among white children.

Knowledge of the skills required by various occupations has been found to increase in a sample of third to eleventh graders whose ethnicity was

not described (Nelson, 1963). Children's awareness of the existence of different occupations also apparently increases with age. Taking the number of occupations aspired to by boys as a rough measure of children's knowledge of existing occupations, one finds that black and white children between the ages of three and five altogether nominate approximately thirteen different occupations (Kirchner and Vondracek, 1973)*, first and second graders of unspecified ethnicity nominate eighteen occupations (Looft, 1971), and black and white third through sixth graders nominate sixty occupations (Clark, 1967). Even sixty occupations is a small number compared to the titles listed in sources such as the Dictionary of Occupational Titles. Children, however, may be aware of more occupations than those listed in the occupational aspiration studies from which our estimates were taken.

As children mature they are also increasingly likely to project themselves into adult roles and to define adult roles by occupation. For example, when black and white preschoolers were asked what they would like to be when they grew up, 57% of a sample of three-year-olds, 66% of four-year-olds, and 84% of five-year-olds projected themselves into an adult role defined by occupation, adult status, or parenthood (Kirchner and Vondracek, 1973). There is a corresponding increase in projection of one's self into specific occupational roles. In the Kirchner and Vondracek study, 24% of the three-year-olds, 34% of four-year-olds, and 66% of five-year-olds mentioned one or more specific occupations when asked what they would like to be when they grew up. Davis, Hagan and Strouf (1962) reported that 60% of the black and white twelve-year-olds they questioned made tentative occupational choices. Because these two studies are separated in time by more than a decade and because the testing situations and populations were somewhat different, we cannot know whether the figures for five- and twelve-year-olds represent an actual plateau in projection of the self into adult occupations. Nonetheless, the two studies do show both an early equating of adulthood with occupational involvement and a willingness to project one's self into an occupational role.

Several studies document the early development of awareness about the social consequences of occupations. Weinstein (1958), interviewing elementary school students whose ethnicity is not specified, found that they all mentioned occupations as a criterion for social stratification of adults. They also understood that higher status occupations led to greater material rewards. Boys and girls as young as third grade have a very clear understanding of the prestige assigned to various adult occupations (DeFleur, 1963; Nelson, 1963; Simmons, 1962), and their rankings of the prestige of occupations correlate at an astonishingly high level (roughly .90) with adults' rankings of the same occupations (Hansen and Caulfield, 1969; Simmons and Rosenberg, 1971).

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*Because Kirchner and Vondracek report occupational aspirations in a mixed list of specific occupations and occupational types, an exact count of the number of specific occupations is not possible.

Some information is available on differences between boys and girls and among various ethnic groups in the acquisition of information in Clusters (the existence of various occupations) and 2 (their antecedents and social consequences). The study on information about the skills required by various occupations found no differences between boys and girls of unspecified ethnicity at any grade level (Nelson, 1963). The studies on occupational aspirations, which are the basis for our information about children's knowledge of the existence of careers, do not permit any inferences about sex or ethnicity differences, although they do point to clear differences in aspirations which will be reviewed in the next section. No differences have been found among white middle-class children, working-class children, and black children in the prestige they assign to various occupations (Lefebvre and Bohn, 1971).

There may be some differences between the sexes and between blacks and whites in their willingness to project themselves into adult occupational roles, but the data here are mixed. Kirchner and Vondracek (1973) found that preschool black and white boys and girls were equally likely to project themselves into adult roles, although boys were slightly more likely to define adult roles by specific occupations (59% of the boys versus 55% of the girls), and girls were much more likely to define adult roles by parenthood (30% of the girls versus 6% of the boys). Davis, Hagan, and Strouf (1962), on the other hand, found that twelve-year-old black and white girls were more likely than boys to make occupational choices and O'Hara (1962) found that 15% of a large sample of fourth through sixth grade boys of unspecified ethnicity made fantasy choices about the "sort of person [they] want to become," while such choices were negligible among the girls. In the Kirchner and Vondracek (1973) study of preschoolers, black children were less likely than white children to project themselves into adult roles in general and considerably less likely to project themselves into specific occupational roles (28% of the blacks versus 57% of the whites). In the twelve-year-old sample of Davis, Hagan, and Strouf (1962), however, there was no difference between black and white children's willingness to make tentative occupational choices. None of these studies simultaneously differentiated children on the basis of both race and sex.

All the data that one might wish on young children's information about careers are not available, but what there is suggests that they have limited information about what people do in different occupations and even more limited information about the antecedents and social consequences of occupations. There is a clear understanding and apparent acceptance of the social hierarchy of occupations and, as the next section demonstrates, clear attitudes about the appropriate occupational roles for themselves and probably for various types of people.

ATTITUDES ABOUT CAREERS (CLUSTERS 4, 5)

We have divided children's attitudes about careers into those focusing on others and those focusing on themselves. The literature does not divide itself so neatly into two clusters nor does it provide us much information other than that on children's own occupational aspirations. That information is, however, quite telling in the strong evidence it presents for white girls' early constriction of aspirations. It also indicates that

young black children do not constrict their aspirations, suggesting that the limited occupational attainment of blacks, in this culture is caused by factors other than their early personal acceptance of limited occupational roles. In this section we review what is known about young children's occupational aspirations after we review their occupational values and their perceptions of appropriate occupational roles for men and women.

Occupational Values

Three studies of elementary school children indicate the importance they place on occupations as a source of income and of pursuit of interests. None of them report the ethnicity of the children studied nor do they report examining differences between boys and girls. Goodson (1970) found that most of the third through eighth graders she interviewed gave money as the reason for work, with a very few mentioning personal satisfaction. Similarly, Hales and Fenner (1972) report that fifth, eighth, and eleventh graders valued job security, money and self-realization most highly in an inventory of work values. Little change in values was found from the fifth through eleventh grades, leading the authors to conclude that work values are already well-established by the fifth grade. Finally, Creason and Schilson (1970) report that approximately 35% of the sixth graders they interviewed justified their occupational preferences by simply stating "I like it." The next most frequent reasons were helping people (12% of the children), getting lots of money (7%), and personal interest (6%).

In a study of a large sample of fourth, fifth, and sixth graders of unspecified ethnicity O'Hara (1962) found that boys and girls differed in their reported bases for occupational choices. Fifty percent of the time, girls mentioned personal values as the basis for career choices, while boys mentioned values only 30% of the time. Boys' interests were their main reason for career choice, while interests accounted for only 30% of girls' reasons. Neither boys nor girls very often referred to their own capacities as reasons for occupational choice.

Thus, there are indications that children in the later years of elementary school understand that one's interests and values are acceptable bases for occupational choice, but they apparently are not very specific about the relationship between their own interests or values and their occupational choices. Very few of them mention the influence of significant other people, which is one of the primary determinants of careers in adults' retrospective reports of occupational choice. Many children also understand that occupations provide income and make this one of their primary work values. There is the suggestion that boys and girls may use somewhat different bases for justifying occupational choice, and there is no information on ethnic differences in values and interests and their relationship to occupational choices.

"Appropriate" Occupational Roles for Others

Only two studies have directly examined young children's perceptions of the occupational roles appropriate for others. Both found occupational roles to be relatively stereotyped on the basis of sex, and neither examined stereotyping on the basis of ethnicity. Beuf (1974) interviewed a mostly white sample of three- to six-year-old boys and girls, asking them among other things what they would be if they were the opposite sex. Sixty-five percent of the boys and 73% of the girls chose sex-stereotypical occupations, and only one boy and one girl chose nontraditional occupations! The breadth of stereotyping is further evidenced by the fact that all the girls could suggest occupations they might hold if they were boys, while many of the boys could not imagine what jobs they might hold if they were girls. The report of a conversation with one preschooler illustrates the boys' perplexity:

> "[He] put his hands to his head and sighed. 'A girl?' he asked. 'A girl?' again. 'Oh, if I were a girl I'd have to grow up to be nothing'" (Beuf, 1974).

Both Beuf (1974) and Schlossberg and Goodman (1972) presented children with pictures of people in an employment situation and asked them to judge their acceptability. Beuf (1974) used only one picture, that of a female telephone repairperson, and found that 49% of the three- to six-year-olds stated that was "not OK." The children were, however, more accepting of egalitarian roles within family situations. Schlossberg and Goodman (1972) presented kindergarteners and sixth graders, whose ethnicity is not reported, with drawings of six typically feminine and six typically masculine occupations, asking if both a man and a woman could hold each job. Answers tended to be stereotyped, although children felt that it was more acceptable for men to hold stereotypically feminine occupations than it was for women to hold stereotypically masculine occupations. Kindergarteners were as stereotyped as sixth graders, a finding which corresponds to the very early sex-typing of occupational aspirations, to which we now turn.

"Appropriate" Occupational Roles for One's Self

Compared with the rest of our information on career awareness in young children, there is an abundance of information on young children's occupational aspirations for themselves. Comparison of the aspirations of boys and girls and of whites and various minority groups gives us some indication of the occupational roles children consider appropriate for themselves on the basis of their own sex and/or ethnicity and, by extension, of the occupational roles they consider appropriate for others of the same sex and/or ethnicity. The data, however, are still not complete enough for us to understand which occupational roles minority-group children, other than blacks, perceive to be appropriate for themselves.

The literature on sex stereotyping of occupational choices by young white children is the clearest in its import. For example, Beuf (1974) shows that even three- to six-year-old, mostly white, boys and girls have adopted current cultural stereotypes about the occupations that they expect to fill when they grow up. Seventy percent of the boys and 73% of the girls chose sex-stereotypical jobs for themselves, while only one boy and one girl chose nontraditional jobs. A number of other studies also report sex-stereotypical occupational choices among white boys and girls, or among boys and girls whom we presume to be white because their ethnicity is not specified. Looft (1971) found that 76% of first and second grade girls chose to be either teachers or nurses, O'Hara (1962) reported that 67% of fourth through sixth grade girls chose to be teachers, nurses, secretaries, or mothers, and Deutsch (1960) found that a sample of fourth through sixth grade girls mostly chose to be nurses or housewives. Nelson (1963) reported that third through eleventh graders justified occupational choices on the basis of sex-appropriateness. Finally, two studies conducted almost forty years apart found almost no overlap between the occupational choices of boys and girls in the second grade (Siegel, 1973) and in the first through sixth grades (Boynton, 1936).

White boys also consistently nominate many more different occupations than do white girls when asked what they expect to do as adults. Using the same group of studies, we find that in the 1930's boys in the first through the sixth grades chose twenty-three different occupational groups with a frequency of five or more instances per group compared to only thirteen for girls (Boynton, 1936). That things have not changed much for white children is indicated by more recent studies in which second grade boys chose twice as many occupations as girls (Siegel, 1973), boys in the first and second grades chose eighteen different occupations while girls chose only eight (Looft, 1971), and boys in the fourth, fifth, and sixth grades made their choices from a wider range of opportunities than did girls (O'Hara, 1962).

Further indication of white girls' early foreclosure of occupational options is found in Looft's report that fewer girls than boys could suggest alternative occupations if they could not pursue their first choice (Looft, 1971). Beuf (1974) also found that many girls said that the job they would hold as a boy was the one they really wanted, but they understood they could not hold it because they were girls.

Judging from the results of two studies conducted twenty years apart, black boys and girls do not stereotype their occupational choices in the same ways as white children. Both Gray (1944), working with a large sample of six- to fourteen-year-old black boys and girls, and Clark (1965), working with a relatively large sample of third through sixth grade black boys and girls, found that girls' occupational aspirations were higher than boys'. In Clark's study, as many as 59% of the academically achieving boys did not choose occupations at as high a level as girls (Clark, 1965). The earlier study (Gray, 1944) reports one finding similar to that for white children in that there were twenty-six categories for occupations mentioned at least four times by the black boys and only twelve categories mentioned by black girls, but these results are old and so should be viewed with

caution. We could find no studies of sex differences in the occupational aspirations of minority group children other than blacks. Given the differences in the choices of black and white boys and girls, we find no basis for extrapolating any research findings to ethnic groups other than those directly studied.

There are two other studies which report sex differences in occupational aspirations, but they combine information from black and white children in such a way as to obscure the occupational preferences of boys and girls within each race. In the Kirchner and Vondracek (1973) study reviewed earlier, 19% of the preschool girls as opposed to only 4% of the boys stated their occupations as "parents" when they grew up. The specific occupational choices mentioned by the girls also showed a much narrower range and a focus on nurse and teacher (38% of the girls), while the boys had a broader range (although they too focussed on visible occupations such as doctor, police officer, and firefighter). Because there were nearly twice as many whites as blacks in the sample, we may surmise that these patterns are due to white rather than black preferences but we cannot be certain. Clark (1967), working with black and white children in the upper elementary school grades, also reports sex differences in occupational aspirations for the two races combined. In a large sample of third through sixth graders, boys chose sixty occupations and girls about thirty. The careers of teacher and nurse once again accounted for 67% of the girls' choices.

Young girls also underestimate their own abilities and personal qualifications for entering higher-status occupations. While both boys and girls make decisions at about the same age about higher status occupations, they make them differently. The more prestigious a boy of this age considers an occupation to be, the more likely he is to prefer it, while a girl's occupational preference is either unrelated to her perception of its prestige or negatively related to it (Barnett, 1973; Barnett and Baruch, 1973). If recent changes provoked by women's movements have occurred, they have not yet appeared in the research on the perceptions of young white children.

Studies of young children from different ethnic groups also document the appearance of early career awareness, as evidenced by their occupational aspirations. Comparing blacks and whites, one study of first graders (Nelson, 1968) and seven studies including third through sixth graders (Antonovsky, 1967; Boyd, 1952; Clark, 1967; Deutsch, 1960; Gray, 1944; Kuvlesky and Thomas, 1971; Snelbecker and Arffa, 1966) found no differences between blacks and whites in the educational and occupational aspirations of the children. In fact, when IQ and socioeconomic status are controlled, there is evidence that the aspirations of blacks are higher than those of whites for children from the first through sixth grades (Barnett and Baruch, 1973; Boyd, 1952; Nelson, 1968).

We found only two studies which examined the occupational aspirations of minority-group children other than blacks. Hindelang (1970) found the

occupational aspirations of white fourth-through-sixth graders from working class families to be higher than those of blacks, which were in turn higher than those of Chicanos. Similarly, Goldblatt and Tyson (1962) found the occupational aspirations of white fourth-through-sixth graders of lower socioeconomic status to be higher than those of blacks which were in turn higher than those of Puerto Ricans. Since these two studies are the only ones of ten comparisons of blacks and whites which reported lower occupational aspirations for blacks, and the only studies of Chicanos and Puerto Ricans which we found, we do not believe there is a good basis for describing the occupational aspirations of minority-group children other than blacks. The generally high levels of aspirations for blacks do suggest that their pervasive unequal occupational status cannot be attributed to a presumed lower level of aspiration in the early years.

There also is substantial evidence that minority parents are strongly motivated to gain greater educational and occupational opportunities for their children (Baughman and Dahlstrom, 1968; Cloward and Jones, 1963; Deutsch, 1965; Gurin and Katz, 1966; Herriott and St. John, 1966; Reiss and Rhodes, 1959; Scanzoni, 1971). This high level of aspiration, however, is not always accompanied by clear plans for how to help their children to set goals and to take the necessary steps to succeed. Despite the lack of specific plans to achieve their career aspirations, black elementary-school children do realize that they will need to be better educated than whites in order to qualify for the same jobs (Hindelang, 1970).

In addition to their separate effects, sex and race interact in complex ways in affecting early career awareness. Studies conducted more than thirty years ago (e.g., Boynton, 1936; Gray, 1944) showed black girls, unlike white girls, rarely choosing "housewife" as their future occupation. In recent years, black girls are even more encouraged to aspire to higher-level professions and enter the full-time labor force in far greater numbers than white females (Gump and Rivers, 1973). Deutsch (1960) reports that white fourth-through-sixth grade girls' second most popular occupational choice was housewife, while for black girls it was teacher or white-collar worker. One-third of the girls of both races chose, however, to be nurses. Clark (1967) also found that third-through-sixth grade black girls expressed higher occupational aspirations than white girls, even when the comparison was between black girls of lower socioeconomic status and white girls of the middle class. As early as the elementary-school level, black girls' occupational aspirations have generally been found to be higher than those of black boys (Barnett and Baruch, 1973).

All these studies suggest that young children have some awareness of the world of work, but that this understanding, especially for whites, reflects the current, often stereotyped attitudes toward sex and race in that world. We do not know where children get their understanding, either accurate or distorted, nor do we know how their understanding changes as they mature or as the world changes. The extent of stereotyping of occupations by ethnicity seems especially important to understand because there is some evidence that minority children (particularly black girls) have high occupational aspirations while as adults they generally hold low-status

occupations. An understanding of the development of ethnic stereotyping of occupations by whites, as well as by nonwhites, might help us to pinpoint where things go wrong for minority children.

Research Recommendation 1

The acquisition of more knowledge about young children's perceptions of the opportunity structure in occupations, for themselves and for others.

We need to learn more about the ways in which white and minority children stereotype their career aspirations and their expectations of careers for children of other ethnic groups. Now we have conflicting information, and not much information altogether, about the career aspirations and expectations of minority children. Most of what we do know about minority children focuses on black children. We also know little or nothing about the expectations white children hold for minority children's occupations. Without this information it is difficult to know what directions of change are most promising: to try to change minority children's stereotypes, to help them acquire the training they need for the occupation they aspire to, to advocate stronger equal employment opportunity laws, while also changing the ethnic stereotypes white boys hold.

We need to know more about the development, between the ages of about three and twelve, of attitudes about "appropriate" occupational roles for males and females in the predominant American ethnic groups -- whites, blacks, Chicanos, Puerto Ricans, and native Americans. This would include opinions about what occupations the various types of people are capable of fulfilling, what occupations are appropriate for the various types of people, the extent to which the larger social structure makes it possible for any group to train for and enter any occupation, and the resources available to any group for occupational training. Since the preceding literature review indicates sex and ethnic differences in these attitudes, care should be taken to elicit opinions for one's self and for each sex within each ethnic group. In the course of acquiring this information, we recommend that attention be paid to social reality and changes in it to which the child is exposed in order to examine the relationship between this reality and the child's opinions. Even without relating children's current attitudes to social reality, however, a simple description of these attitudes would allow us to pinpoint those groups, belief systems, and informational areas most in need of educational effort.

THE DEVELOPMENTAL COURSE OF CAREER AWARENESS

We know very little about the developmental course of career awareness. We can make the reasonable assumption that information about occupational behavior, about its antecedents and social consequences, and about the self increases as one matures. We have already reviewed evidence that children's awareness of a variety of careers, of the skills required by different occupations, and of the importance of occupations in defining

adult roles increases during the early years (see page 15), and it is clear that young children's understanding of the social status hierarchy of occupations is sufficiently great that little change can occur from early childhood on (see pages 15-16).

There is no evidence that, as children mature, they correct their early stereotypes about careers. During adolescence, they do of course refine their occupational choices, and some change may occur in the aspirations of black children as they increasingly encounter the social realities of limited opportunity and discrimination. Decisions often, however, remain culturally-stereotyped, with original choices that were "sex-appropriate" or made by females changing less than those that were "sex-inappropriate" or made by males (Carmody, Fenske and Scott, 1972; Rosenberg, 1957; Schmidt and Rothney, 1955). These preliminary observations are about all we know at present about the course of development of career awareness from early childhood through adolescence.

Predictiveness of Early Career Awareness

There is little information about the stability of career awareness from childhood to adolescence or adulthood. There is some evidence about stability during adolescence and early adulthood, but one immediately encounters the problem of defining which aspect of career awareness one is interested in: occupational choice per se, occupational values, level of occupational aspiration, or endorsement of occupational role assignments which are stereotyped by sex or ethnicity. Not all these aspects have been examined during adolescence and early adulthood, but there is some information worth recounting here.

The career plans of college and high school students seem relatively unstable. Rosenberg (1957) reports that 60% of college students change their occupational plans at least once while at college. More recently, Baird (1973) found no significant correlation between the plans reported by students in their freshman and senior years, a finding that held true for males, females, blacks, whites, and students at high and low socioeconomic levels. Schmidt and Rothney (1957), Carmody, Fenske, and Scott (1972), and others describe similar or even greater instability of career choice by high school students.

On the other hand, the occupational value hierarchies of adolescent males do not change too much during the last four years of secondary schooling. Montesano and Geist (1964) report a rank order correlation of .82 in the saliency of seven occupational values held by boys tested in ninth and again in twelfth grades. Gribbons and Lohnes (1965) report a rank order correlation of .68 between the occupational values expressed by boys in the eighth grade and again in the twelfth grade. The rank order correlations from eighth to tenth grades and tenth to twelfth grades were .84 and .50 respectively. For girls the rank order correlations for occupational values were .95 from eighth to tenth grade, .52 from tenth to twelfth grade, and .46 from eighth to twelfth grade. As we reported before, early concepts of occupational prestige and culturally-stereotyped occupational role assignments

persist into adulthood. Indeed, early occupational choices which conform to cultural definitions of sex-appropriate employment are more stable than those which do not conform.

Although there is no direct evidence on the stability of career choices made before high school or college, these decisions surely must be at least as unstable as those made later. If our argument for the value of early career awareness were to rest upon the predictiveness of early career choices to later employment, little support could be mustered. However, our argument rests upon the opposite contention, that the better our efforts at creating early career awareness, the lower the predictiveness of early career choice to later success because children would be considering a greater range of career options. At present we know little about the developmental course of career awareness and its predictiveness for occupational choice, and we believe such information would be useful in developing career education programs and in pinpointing target ages for a variety of curricula.

Research Recommendation 2

The acquisition of knowledge on the developmental course of occupational orientation and its implications for actual occupational choice.

If we are to influence occupational awareness and to help children break down stereotyped attitudes before they make career decisions, we must understand the developmental course of occupational choice, specifying those times when help would be most useful. Each person needs time to gather information about careers, reflect upon the personal meaning of that information, test the possibilities, and make successive adjustments in the course of occupational choice. We have no established educational procedures to help each individual through these steps. To make each individual's progress toward a career decision less haphazard and the ultimate decision less stereotyped, we must understand the successive approximations that are made and how this developmental course can be assisted.

We need to understand how much children of different ages know about the various types of occupations, about the many specific occupations within each type, about the skills required by each, about the interests and values each represents, and about the lifestyles associated with each. For each of these informational areas, we need to know whether there are particular periods in development when children are more able or eager to acquire such information. We also must learn more about the developmental course of such attitudes about careers as the value of work, the relationship between interests or values and work, the work-related capabilities of various types of people and their "appropriate" occupational roles, and about the times when children form such attitudes and when they are most amenable to changing them. Finally, we need to know more about the types of tentative occupational choices, including aspirations and expectations, that children of different ages, sexes, and ethnicities make and how these are related to occupational

attainment. Such an analysis must include occupational type, occupational status, and range of occupations considered, as well as specific occupational choices.

A cross-sectional, short-term longitudinal study of the development of such information, attitudes, and choices would help us to estimate the full value of early career awareness programs and the age groups for which particular types of information and experiences should be targeted. Additional information may be obtained from five or six existing banks of longitudinal data such as Project Talent and the Fels Study. These sources should certainly be examined, so that analyses of their data and of that from the study we recommend can help us to be specific about what to teach children when.

EARLY INFLUENCES ON CAREER AWARENESS

Evidence is scarce on the factors influencing the early development of career-related information and attitudes. We can learn something from studies of the effects of viewing entertainment television and from evaluations of the career education curricula which we describe more fully in Part III of this paper. In addition, suggestions of avenues which might be pursued can be derived from studies of the career choices of adolescents and young adults. We begin this section with a review of these studies of external influences on the career choices of adolescents, then move to a review of the external influences of entertainment television and career education curricula on young children's career-related information and attitudes and conclude with some information on internal influences on career awareness.

External Influences on Career Choice

Most adolescents and young adults list their parents (usually the same-sex parent) as most responsible for their career choices (Jensen and Kirchner, 1955; Pallone, Hurley and Rickard, 1973; Pallone, Rickard and Hurley, 1970; Peters, 1941; Steinke and Kaczkowski, 1961). The second source perceived as most responsible is usually someone holding the specific occupation the respondent has chosen (Pallone, Rickard and Hurley, 1970). All of these studies point to the retrospective ascription of potency to personally-known occupational models.

Several other studies of adolescents describe parent-child relationships and family structures as they relate to sex differences in differential motivation for occupational mobility (Douvan and Adelson, 1966; Dynes, Clarke and Dinitz, 1956; Rosen, 1956). These analyses point to the role of the family in creating substantial differences between adolescent boys and girls in the degree of autonomy, independence, assertiveness, and self-regulation. In all these areas related to occupational mobility, girls show weaker motivation. For younger children, similar differences in motivation between boys and girls have been described (e.g., Lesser 1973; Maccoby, 1966; Maccoby and Jacklin, 1974; Mischel, 1970), but the

relationship of these earlier differences to career performance has not been tested.

We have come to accept the peer group as the most salient influence upon the adolescent, operating as a "counterculture" that ignores, resists, or opposes the influence of adults. Surely, the adolescent's peer group does play a central role in matters of taste, dress, leisure activities, and certain social values. However, peers are far less influential than parents and other adults in determining long-range goals such as occupational choice and educational plans, and the influence that peers do exercise more often supports the attitudes of adults instead of opposing them (Douvan and Adelson, 1966; Kandel and Lesser, 1972). These findings hold true for both boys and girls.

If peers are less influential than parents and adult models, other potential sources of career direction are even less prominent than peers. Schools, teachers, guidance counselors, books and catalogues are rarely cited as influential by adolescents and adults. Schools and teachers surely play important roles in providing training for careers, but adolescents generally do not perceive them as important to their career choices.

Most of the studies of external influences upon career choice study them in isolation from each other. Rarely are the family, peers, schools and teachers, and the media examined in combination. In addition, most studies are retrospective and use the student as his or her own informant. While information obtained in these ways may be useful, one cannot be confident that the respondent has been accurate in assessing sources of influence, especially when the report is obtained long after the fact. A few studies (e.g., Jensen and Kirchner, 1955; Kandel and Lesser, 1972) examine the concordance between parents' occupations and those selected by adolescents at the time their choices are being made. In these studies, workers are likely to have occupations similar to those of their same-sex parents or else a step above them in the status hierarchy, evidence which could be construed as confirming the respondents' own estimates that it was their parents who influenced their career choices. Still it is desirable to plan studies which utilize more experimental and observational procedures and less retrospective techniques. There have not been many such studies, although the few evaluations of intervention programs that we will describe later in this paper do provide relevant information.

External Influences on Career Information

Given the highly visible occupations which young children suggest they wish to be when they grow up, we can assume that much of their early information about careers comes from exposure to these careers within the community and the mass media. One amusing example comes from a five-year-old who recently told one of us he could equally well be a janitor, university teacher, artist, pilot, student and father when he grew up -- all occupations or ardent avocations of his father within the past two years. Our

only information on early influences in this area is, however, that entertainment television and career awareness curricula can help to educate children about occupations. We do not know how much of young children's information they account for nor do we know how they interact with other presumed sources of information such as parents, peers, teachers, books, and community workers.

Much of television incidentally provides a great deal of occupational information. Unfortunately much of it is also superficial and misleading (DeFleur and DeFleur, 1967). For example, lawyers often are portrayed as clever users of legal tricks, police officers often are seen as hardened and unfeeling. Still, television provides "information" to children. Evaluations of Sesame Street segments on careers indicate that preschoolers can learn the names, activities, and accoutrements of occupations from it (Bogatz and Ball, 1971). Evaluations of other television series and of instructional units also indicate that minority and majority children from preschool through the sixth grade can gain information about occupations from them (Bernabei and Case, 1972; Graves and Nelson-Shapiro, 1974; Harkness, 1973).

External Influences on Career Attitudes

Entertainment television and career education curricula can also influence young children's attitudes. Three- to six-year-olds who are heavy viewers of television are more likely than light viewers to stereotype occupations on the basis of sex (Beuf, 1974). Even adults who are heavy viewers, as compared to light viewers, believe that more men have law enforcement jobs, that more white and nonwhite Americans are employed in professional and managerial occupations, and that more Americans are employed as professional athletes, entertainers, and artists (Gerbner and Gross, 1973). While neither of these studies permits inferences about the direction of effects, most people assume that it is television viewing which contributes to the development of these stereotypes rather than vice versa. One recent study has, in fact, demonstrated that television commercials which portray women in nontraditional occupational roles can influence children's beliefs about the division of labor between the sexes, and the influence was stronger when children were led to believe that the commercials represented real women (Pingree, 1975).

It is not at all surprising to find that heavier viewers of American television have more stereotyped opinions about the occupational roles of men and women and the various ethnic groups, since every category of television programming which has been examined presents them in stereotyped occupational roles. Women have been found to be much less frequently employed outside the home in children's programming (Ormiston and Williams, 1973), commercials (Courtney and Whipple, 1974), prime-time programming (Tedesco, 1974), and daytime soap operas (Downing, 1974). Blacks have been found to be much less frequently employed than whites in children's programming (Mendelson and Young, 1972; Ormiston and Williams, 1973). Other minority groups are so infrequently presented that one cannot characterize

their employment patterns. Taking only those men and women, or whites and non-whites, who are employed outside the home, white males are more likely to occupy higher status occupations than white women or minorities of either sex. The few times where this is not true, the number of employed women or minorities is so small that the patterns of occupational attainment can be skewed by changes in the occupations of only one or two characters.

Evaluations of three sets of career education materials indicate that curricula can influence attitudes. This includes videotapes of five different occupations designed to produce "a more positive attitude about work" among sixth graders (Bernabei and Case, 1972), six career education lessons which increased attitudes (occupational prestige, distaste for some occupations, and understanding of the nature of one's own occupational choice) in fourth-through-sixth grade blacks and whites (Harkness, 1973), and books about working women which affected kindergarteners' perceptions of the jobs women could do (Barclay, 1974).

Most of the career awareness curricula which we review in the third part of this paper unfortunately do not challenge traditional views of the occupational roles of men and women, whites and minorities. The clearest attention to stereotyping by sex or ethnicity occurs in the three sets of inserts for public or commercial television programs for children between the ages of three and eight. Other curricula, all aimed at children who are at least five-years-old, do not explicitly address the issue of occupational stereotyping and, as far as we can determine, do not do so implicitly either. This means that these external influencers of career attitudes do not counter the stereotypes young white and black children already hold about the occupations which are appropriate for white (or black) men and women. Children are then exposed to career information -- much like that in the rest of their world -- which either ignores women and minorities or which places them predominately in the lower status occupations.

Internal Influences on Career Awareness

Among adolescents and young adults, the effect of personal characteristics upon career choice is well-documented. In an earlier section of this paper, these influences were discussed: preferences and interests; abilities and aptitudes; aspirations and expectations; motives and values; knowledge and experience with occupations; self-concept and sense of competence.

Self-concept and sense of competence are, of course, of primary importance in career choice. To the extent that self-concept is stereotyped by one's sex or race, one's occupational orientation may be similarly stereotyped. Where this occurs, the study of career development dovetails with the development of sex-roles and race-roles. Alleviating stereotyping in one should be reflected in less stereotyping in the others. Thus, any understanding of the development of career orientations must contain an

analysis of sex-role and race-role development. These aspects of self-concept may contribute heavily to attitudinal influences on occupational aspiration and achievement.

Because there are several clear examples of relationships between careers and the development of sex-role attitudes, we will focus on these to the exclusion of race-role attitudes for the rest of this section. It is not our intention here to document all the ways in which self-concept and personality may influence career awareness; to do so for each sex within each ethnic group would take much more time and space than we have. Rather, we wish to point out the saliency that variables, other than those generally classed under career development, may have and we can do that reasonably well with the example of sex-role attitudes.

For men, strong achievement motivation is associated with occupational performance and mobility; one component of achievement motivation in particular, fear of failure, is a strong deterrent to occupational success for men (Crockett, 1973; Lipset and Bendix, 1959; McClelland and Steele, 1973; McClelland and Winter, 1969; Rosen, 1956). For women, the burden of fearing failure is only one psychological deterrent to achievement. Fear of success is perhaps more pervasive and more crippling for them. This observation has a long history. Analyses by both Freud (1933) and Mead (1949) stating that competitive achievement becomes consciously or unconsciously equated with loss of femininity have been reconfirmed in recent studies of women (Horner, 1973; Lesser, 1973), although there are indications that black women show less fear of success than white women (Weston and Mednick, 1972).

There is little evidence that young girls fear success in the same way that women do (Maccoby and Jacklin, 1974), and there are indications that young girls are eager to compete and achieve when the tasks set for them are defined as neutral or feminine (Stein, Pohly, and Mueller, 1971). When tasks are defined as masculine (as most prestigious occupations and test stimuli have been), girls retreat to their "stereotypical" lack of motivation. Perhaps some of white women's fear of failure and success and low career aspirations arise from the fact that they will not compete in arenas they view as masculine. Unfortunately, there are no research signs as yet that the growing emphasis on women's rights has reduced women's fear of success, as it is traditionally measured. Any analysis of sex differences in career decisions must include the development of this element of self-concept in women: the motive not only to avoid failure, but success as well.

The connections between career and self-concept are different for boys and girls. Studying adolescents, Douvan and Adelson (1966) report that an essential ingredient in boys' self-concept comes from their search for a work identity. Boys' discussions of future plans reveal a consistent preoccupation with choosing and preparing for a future vocational role. When their opportunities for meaningful contact with occupational work are limited, great confusion results in their development of self-concept

(Goodman, 1960). For adolescent girls, Douvan and Adelson report less personal investment in future work, "... a less differentiated picture of the world of work, a less discriminating view of the content of the particular job to which they aspire" (p. 36). When Douvan and Adelson grouped occupations according to the long-term commitment they require, only 10% of adolescent girls want these jobs compared with 47% of adolescent boys. The current movements for women's rights may be modifying this picture somewhat. Men and women in recent graduating classes at such universities as Harvard and Stanford are reported to aspire equally to the same professional careers. Even their professed interests in marriage and children are roughly equivalent. At Stanford, women have remained in graduate programs at the same rate men have for at least the past four years (Carlsmith, personal communication). While these changes have occurred among men and women in fairly unrepresentative environments, they at least indicate that such change is possible.

Barnett's (1973) study extends these connections among self-concept, sex-role, and careers, adding occupational prestige to the analysis. Boys and girls differ at every age from nine to seventeen, with the correlations between occupational prestige and preference being higher for boys than for girls. Conversely, for girls at every age the relationship between prestige and aversion is positive and stronger than for boys. These data point to early sex-related learning with regard to the attractiveness of prestigious occupations: boys learn to prefer them, girls learn to reject them. Barnett did not study the self-concepts of boys and girls directly, but her data clearly imply that girls consider themselves unworthy of prestigious occupations or consider these jobs inaccessible to them.

Turner's theory (1964) places these observations in a broader perspective. He concludes from his data that girls' self-concepts derive from the fact that they attain success largely by being chosen by others rather than through their own direct pursuit of success. In contrast, boys learn that they must take an active role in gaining acceptance and success, must be self-reliant and self-regulating, and must learn to delay gratification in order to achieve lasting success.

These ideas about sex-differences in self-concept and their implications for career development, may sound old fashioned and outmoded by the current efforts of women to gain equal rights and equal treatment. Although our optimism must lead us to hope that significant changes are occurring in both self-concepts and career opportunities of women, no direct evidence has accumulated yet to support that optimism. Until such evidence appears, we must assume that other efforts, along with the women's and civil-rights movements, must be made to redress the gross inequities based on sex. We believe that similar assertions can be made about inequities based on race, but there is much less available data to support or refute them now.

The research which we have reviewed in the preceding three sections on early influences on career awareness and our previous documentation of

the early development of career awareness in children lead us to the first two of our three recommendations for programmatic activities. All are based on the knowledge that even very young children are aware of careers and are busy acquiring information and attitudes about them, that children will turn to whatever sources are available to them in their efforts to understand the world of work, and that career awareness curricula can influence children. They are also based on the assumptions that we have an obligation to provide children as early as possible with the best available informational and attitudinal bases for career development, that current experiences and curricula do not do this, and that, even without the additional research which we have recommended, we can now develop some programs to achieve these goals.

Programmatic Activity Recommendation 1

> Career awareness material, such as that produced for Sesame Street, Vegetable Soup, and the Kingdom of Could Be You, should be expanded and made more widely and continuously available to children between the ages of three and eight.

There are four components of this recommendation which merit explanation and justification: the focus on very young children, the use of television, the focus on already existing material, and the content of any new production. As we consider each of these, we will briefly refer back to research reviewed earlier in the paper, attempt to clarify our ultimate goals, and evaluate the more frequently-voiced concerns about achieving any of these goals.

We are advocating that children be given more, better, and earlier information about careers. The facts that preschoolers have considerable information about careers, that by the age of five or six children have acquired a number of limiting and persistent stereotypes about appropriate occupations for themselves and others, that the foundations of many important adult behaviors and attitudes are laid down in early childhood, and that learning of career information and attitudes can and does occur at these early ages all suggest that young children could learn more or different things about careers and that there is a need to provide them with the broader view a planned curriculum can give. Perhaps more and different career information at an early age will help them to consider the widest possible range of occupations for themselves and for others.

We are not advocating that children be thrust toward a specific career commitment at an earlier age. We do not argue for the value of early career awareness because of its predictiveness to later success. Indeed, if successful, opening the options for young children leads logically to the low predictiveness of early choice, and from our position, this is desirable. When children know that a wider range of options must be understood and examined, they will make less definite, less "predictive" choices while in the process of learning more about the various options.

There is another form of "unpredictiv[illegible]" that would result from the achievement of early career awareness. [illegible]resently strong predictor of occupational status is family socioecon[illegible] status, with correlations reported in the range of +.50. If successf[illegible], the achievement of widespread early career awareness could reduce [illegible]at strong association. Indeed, such a reduction in the predictiven[illegible]ss of family socioeconomic status may be regarded as an operational criterion of programs of early career awareness. Jencks and his colleagues (1972) quite correctly warn against simplistic solutions to the massive problems of educational and occupational inequalities, and early career awareness will never provide a complete solution. As one effort, however, it seems worth a try.

Thus, opening the career options for young children has two paradoxical but desirable outcomes. First, it would force the child to delay making a career choice until various options have been considered. Second, the child's early choices would be expected to change several times as new options are discovered, making the early choice less predictive of later career placement.

Although researchers have largely ignored television's effects on career orientations, the ubiquity of the medium, the economy which can be achieved when it is used for large audiences, its capacity for presenting live models, its ability to present the unusual to the masses and its proven ability as a teacher make it reasonable to recommend television as a career education medium. Drawing upon observations of three- to five-year-old children viewing Sesame Street, Lesser (1974) concludes that television provides an extremely promising way to show young children the range of activities and people involved in various forms of work, experiences that would remain, without television, invisible to them.

Our preceding review of research also indicates that adolescents believe they have been most influenced by workers they know well, such as parents, relatives, or adult friends. This suggests either that children identify with familiar adults and accept their occupations as those most suitable for themselves or that they need clear visual and verbal examples of people holding a particular job in order to consider it a possibility for themselves. Our assumption is that both of these processes influence children's career orientations. Consequently, we recommend here the use of television as a means of providing vivid, life-like examples of people at work -- infinitely replicable examples which at once may be mundane and extraordinary.*

We have suggested that this television material come from an expansion and wider distribution of segments already produced for three series (Sesame Street, Vegetable Soup, The Kingdom of Could Be You). We do in the belief that existing, good material should, wherever possible, be

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*Programmatic activity recommendation 3 includes exposing children to parents, relatives, and community members holding a variety of occupations.

utilized. The instructional ability of segments from two of the three series has already been demonstrated, and the production groups have shown their skill in making this material for young children. We have models of television segments whose power to educate and entertain has been demonstrated and we should capitalize on them.

If new material is produced, it should present information on the activities of, skills required by, and lifestyles associated with occupations. Given young children's understanding of the status hierarchy of occupations and their stereotypes of occupational roles by sex, there should also be a clear demonstration of the worth of and satisfactions in each occupation and of its availability to everyone regardless of sex or ethnicity.

There now exist, depending upon how they are categorized, over 20,000 different occupations in this country. Yet at the same time that the range and variety of occupations have escalated in recent decades, how adults go about pursuing this baffling array of occupations has become more and more invisible to children. Making careers visible to children surely is no easy task. Beyond the few employed adults that the child is likely to encounter in the community (police officer, checkout clerk in the supermarket, garbage collector, teacher) there is no way for the young child to see or even suspect that these few visible jobs are only the tiniest sample of adult activities. The embargo on information about what people do is so complete that it is as if we consider it none of the young child's business until adolescence or young adulthood when we demand, suddenly, that a definite, single choice be made. Perhaps the most capricious factor in career decisions is this simple knowledge, or ignorance, of what career opportunities exist and may indeed be accessible. Unlike many of the personal influences upon career choice, the availability of information about the range of career possibilities would seem to be one force that we could control.

In providing very young children with information about career possibilities we will unfortunately need to challenge some of the little "information" they have about occupations. Our review of the literature indicated that children as young as four or five understand something about the stereotyped distribution of occupations in our society and by and large accept it. Therefore, career awareness material must be clearly non-stereotyped.

Most of the curricula which we review in the third part of this paper do not make any obvious challenge to the traditional views of the occupational roles of men and women, whites and minorities. This is unfortunate since we must rely on them, not on everyday experience, to help most children broaden their stereotyped views of occupational roles. When a curriculum includes, either explicitly or implicitly, a demonstration that occupational roles need not be stereotyped, one can be fairly certain children will be exposed to this idea. When the curriculum does not include it, one must rely upon parents or teachers to provide this broader view.

This is something we cannot count on -- and should not have to count on. Curricula should at least imply by their activities, illustrations, and materials that occupations are open to both sexes and all ethnic groups. Perhaps for children between the ages of three and eight this is enough, but for older children, who can reflect on their own thinking, curricula should do more. They should explicitly confront the stereotyped occupational role assignment which currently exists in our country and help children understand that they do not need to endorse it.

The mass media, particularly television and film, provide us with some of the easiest opportunities to guarantee that our children see men and women of all ethnic groups in a wide range of occupations. They alone can reliably provide concrete models of people who do not hold traditional occupations. Yet entertainment television is presently one of the most powerful conveyors of sex and race stereotypes (cf., Leifer, in press), many of the television curricula we review do not actively counter stereotypes, and the television industry itself displays persisting traditional patterns in employment of women and minorities. For example, 1974 employment figures compiled by the Federal Communications Commission show that only 12% of the full-time work force are from minorities in both commercial and non-commercial stations, while women constitute only 24% of the full-time workers in commercial stations and 31% in non-commercial stations. Among television writers, less than 10% are women. Who then will produce the programs that will dispel the stereotypes based upon sex and race?

Some signs of progress exist. Of new full-time employees hired between 1971 and 1974 (a period in which jobs in television have increased 7% overall, from 38,509 to 41,087), 72% have been members of minority groups and 58% have been women. In commercial stations, most increases in employment of both minorities and women were in the upper-level job categories. Minorities gained most new jobs as professionals and technicians and women as officials, managers, and professionals. Although the television industry still contains gross inequities for women and minorities, these most recent signs suggest that promising changes are occurring.

We do not contend that only women and minority writers and producers can produce non-sexist and non-racist material, but surely they must be enlisted in greater numbers if the mass media are to fulfill their potential. Whoever produces the material, there are some worrisome precedents in reaching for our goals. For example, racism and sexism in children's books resembles that for occupations. The Council on Interracial Books for Children points out that in children's books "... members of minority groups are invisible. As a rule, they simply don't exist as real people, if they are mentioned at all, and when they are included, the view of them is so distorted and stereotyped that you almost wished they had been left out" (quoted in Carnegie Quarterly, Fall 1974). In many children's books, including those we have regarded as "good" books, boys are the doers, planners, and leaders, girls are the admirers who follow fearfully and timidly (Nilsen, 1971; Saario, Jacklin and Tittle, 1973; Walstedt, 1974; Weitzman, 1972). The features of racism in children's literature also are well-documented (e.g., MacCann and Woodward, 1972).

But the attempts to change the images of girls and minorities in children's books often seem misguided. For example:

> ... some publishers, in their eagerness to make up for neglecting minority groups in the past, are now putting out "socially relevant" stories that distort reality in an entirely new way, with perhaps equally pernicious results. Today we are seeing a run of books romanticizing life in the colorful, exciting barrio -- books which seemingly deny the hardship of people who are living there. Even when the hard realities of minority life are accurately rendered, the result is not much better, for the stories are often marred by an emotional flatness and didacticism, a total absence of humor, and a dulling lack of imagination (Carnegie Quarterly, Fall, 1974, p. 2).

In the meantime, many interesting and useful career education curricula are being employed by teachers and viewed by children on television. In reviewing this material, presented in the third part of the paper, we found it difficult to determine the extent to which many of the curricula presented non-stereotyped views of occupational roles. Since existing curricula will, and should, continue to be used, information about their ability to reduce occupational stereotyping should be available. The provision of such information is our second recommendation for programmatic activity.

Programmatic Activity Recommendation 2

> Existing career awareness curricula should be analyzed for their treatment of all ethnic groups and both sexes and information about their ability to reduce stereotyping of occupational roles be made readily available to potential users.

Our first recommendation for programmatic activity has both amply justified a concern for young white children's traditional assignment of work roles to men and women and suggested that a similar concern is warranted for all children's assignment of work roles by ethnicity and by sex within ethnic groups. In our review of existing curricula, we often found it difficult to determine the treatment afforded the two sexes and the various ethnic groups. We do not believe this should be such a difficult task. Users should be made aware of the fact that these are critical issues in teaching career awareness if they do not already believe that. If they are concerned about occupational stereotyping by sex and ethnicity, it should be made easy for them to evaluate these aspects of any curriculum.

Consequently, we recommend that existing curricula be analyzed for their presentation of work roles by sex and ethnicity. Such an analysis would include a documentation of the extent to which men and women of the various ethnic groups are portrayed at all, the extent to which they are shown fulfilling traditional occupational roles, the extent to which traditionally masculine and/or white occupations and experiences are utilized,

and the use of masculine generic terms. Consideration should also be given to attempts to discuss explicitly the stereotyped patterns of occupational attainment among adults today and to help children explore the stereotypes they may hold for themselves and others. These analyses would not be too difficult to complete and their widespread distribution would assist parents and teachers in selecting appropriate curricula and in supplementing them as necessary.

Combinations of Influence

The studies which we have reviewed on the external and internal influences on career awareness and choice rarely consider combinations of factors which undoubtedly contribute to career development. Their objectives have been to assess the relative influence of each source and not to determine how the several sources reinforce or compete with each other. Family, schools and teachers, peers, adult models, the mass media, and personal characteristics are each considered in isolation from the other (e.g., Coleman, 1961). When more than one source is encompassed within a specific study (e.g., Kandel and Lesser, 1972), it is to estimate their comparative importance in influencing occupational choice.

There is value in knowing how each source of influence operates. For example, how do different families affect the career decisions of their children? Or, how do sex-role attitudes contribute to career choice? But we must begin to discover how various influences combine to build career awareness. Surely the child experiences these influences in combination, not singly, and their interaction must be considered in any effort to assist career choice.

While we know very little about the effects of combinations of influence upon the development of career awareness, we can predict that they are particularly important. For instance, for children who are exposed to many adult occupational role models, additional information from teachers, books, and television may be easily accepted and integrated into their existing framework of occupations. On the other hand, those children who have less immediate experience with adult workers may find it difficult to accept or utilize information that comes from these secondary sources. They will need a combination of live role models, instruction, work experience, and mediated models to form an adequate impression of the range of occupations available to them. For the young child in particular, it is our contention that the particular combination of family, the mass media, the school and the child's developing self-concept will exert the most powerful influence on career awareness. Our final two recommendations seek to explore this combination more fully and to develop a multi-faceted career awareness curriculum.

Research Recommendation 3

The acquisition of more knowledge about the ways in which career awareness is influenced by family, schools, media, and the occupational structure in the child's community.

If we are to achieve actual changes in occupational attainment, we must learn much more about the ways in which each agent influences career development, the areas each influences, the developmental periods when each can be most influential, and the ways in which the several influences can act in concert to produce various outcomes. We would suggest that parallel studies be conducted for boys and girls in a variety of ethnic groups, including at least blacks, whites, Chicanos, Puerto Ricans, and native Americans.

There are at least four issues these studies would examine. One is which agents are most credible at which ages for each of the five informational and attitudinal clusters described earlier. Comparisons might be made between agents which present information vicariously and those which present it live, and between agents which are part of the child's primary relationships (e.g., family, relatives, and some community workers) and those which are part of secondary relationships (e.g., school, media, and community workers). A second issue is the extent to which each agent can present information divergent from what a child already knows or believes and have it accepted, also whether this varies according to the type of information, the strength of the child's knowledge or belief, or the age of the child. A third issue is how much input from how many different sources (and perhaps the type of source) is needed to change information or attitudes a child already has. Finally, a fourth is the types of information or attitudes each agent is particularly skillful at presenting. For example, parents may be very good at presenting children with concrete experiences in a few occupations, but they may not be as able as the mass media to portray the range of available occupations and the abilities of many different types of people to hold them.

The studies we are recommending would be complex, calling for large banks of data and sophisticated analysis techniques. The questions themselves would have to be formulated in more detail than they are here. However, we believe these efforts would be worthwhile because they would help us to design career education curricula which effectively utilized a variety of resources to produce a significant impact on a child's career development. Such a curriculum is our final recommendation.

Programmatic Activity Recommendation 3

A career awareness program should be developed which combines the influence and resources of the mass media, the family, and the school, and the design of research to guide program development.

We recommend the participation of media, family and school in this program, because we believe that career awareness and occupational attainment

develop through a confluence of factors and that these groups differ in the areas in which they excel in providing children with information and experiences. The most effective career awareness program must surely combine these several socialization agents together to capitalize on the unique capacities of each. We look to the research described in research recommendation 3, and that associated with the development of this new program, to specify the best ways to combine these three agents, although we offer some general ideas about what each would do.

Parents are of early and lasting importance as socializers of children. Indeed, adolescents and young adults report that parents were primary determiners of their occupational choices. Consequently, we suggest that a career awareness program use parents as explicit occupational models, asking children to find out what their parents do, bringing parents into the schools to report on their occupations, and asking parents to take their own and others' children to work with them. In doing so, those parents holding less traditional occupations should, of course, be exploited. Parents can also be encouraged to take their children to visit other workers in the community, give them suggestions about whom to contact, and insure that their children watch films and television programs and read books which present a variety of workers in a variety of occupations. Given the consistently high occupational aspirations parents hold for their children, we believe that parents would follow through when concrete, practical suggestions were made.

Schools can also provide many of these same experiences for children, but they can do more. We look to the school as the organizing center for the entire program. This is the one place where coherent planning and execution of a program can occur from day to day and year to year. While the responsibilities placed on schools are already great and their resources are limited, we find no better place than the school to base a career education program. Given the current interest among teachers and school administrators in career education and the socially-accepted role of the school in preparing children for adulthood, which is especially defined by occupation, we believe that schools would be willing to assume the responsibilities involved in a career education program like the one we recommend.

The mass media component of the program would be available for viewing both at home and at school. Schools could provide children with their primary exposure to the media component and originate the information notices to parents. The school would also be the primary base for experiential learning, which is crucial for young children. Experiences would be arranged to help children be aware of their own interests, values, abilities, and attitudes (Cluster 3), to try out various types of occupations (e.g., service, management, assembly lines, sales, scholarship), and to relate activities required to their own predilections. It would be in the school too that children would be helped to encounter their own occupational stereotypes, examining the sources of these beliefs, their legitimacy, and their utility. We expect that stereotypes would be actively countered, not denied or ignored.

The school would also provide additional information about careers, especially by bringing workers into the classroom and by taking children out to the workers. These experiences provide children with concrete occupational role models which should help them understand and accept the range of existing occupations. However, without special efforts, they will not help children to accept a nontraditional assignment of work roles to men and women, whites and nonwhites. A curriculum developer who simply brings in parents or community workers, takes children out to visit workers, or prepares films of people at work will by necessity duplicate the existing occupational stereotypes. It takes special efforts to find men, women, whites, and nonwhites performing nontraditional jobs and to present them to children in appealing and believable ways. For this reason, we do not believe that a curriculum can be non-sexist or non-racist without a deliberate commitment. We also believe that a curriculum must have an audiovisual component if it is to present concrete occupational role models in nontraditional positions. These "nontraditional people" are hard enough to find that we cannot rely upon individual families, teachers, or communities to supply them for each local career education curriculum. "Nontraditional workers," wherever they can be found, should be captured on film or videotape so that children everywhere can meet them.

We recommend that this audiovisual component be television rather than film since economies of scale are much more possible with television than film. While the costs for both media vary considerably depending upon the production techniques, standards, and personnel, a review by Schramm (1973) indicates that the cost for film can never be reduced below about $50 per student per year, while the cost for instructional television could go from $40 per student per year for 15,000 viewers to $9 per student per year for 600,00 viewers. Undoubtedly, costs for both media have risen since these estimates were made, but the unchanged distribution systems mean that the relative economies which can be achieved with larger audiences remain the same.

We anticipate that parents, school, and the mass media, particularly television, would be combined into a career awareness program targeted primarily for children in the third through sixth grades. A broad package should be constructed which could be transported to any school system. In addition, special units should be devised for children with different needs. From our current information, we would recommend a unit for white girls focusing on career aspirations and sex-roles, one for black boys to raise their career aspirations, one for black children on overcoming the problems of training and discrimination which probably account for their placement in occupations considerably below their aspirations, a unit for hispanic children dealing with bilingualism and competition, and a unit for white males on the power they may possess as adults to open up or restrict careers for women and minorities. We assume that other units would be suggested by the results of the research projects we have already recommended.

CONCLUSION

The causes of the unequal occupational status of women and minorities are deep and pervasive. Simply understanding and improving the early forms of career awareness in young children, as we have recommended, may seem too weak and too naive an expedient by itself to overcome the massive barriers to equality for women and minorities. However, suppose the following assertions are true:

... young children do develop concepts about careers very early in their lives, but because their information and experience are fragmentary, their concepts are narrow and stereotypic.

... once early stereotypes are formed, and no concerted effort is made to counter them, they persist into adolescence and young adulthood with only superficial improvements and expansions based on a child's personal experiences with employed persons.

... the majority of adolescents and young adults thus make career decisions while relatively uninformed of the range and variety of opportunities available to them and of the exact nature of the occupations within that range.

If these conditions are indeed pervasive, we may be overlooking a deceptively direct avenue for expanding occupational opportunities for women and minorities, one that can never reverse the basic political and economic causes of inequality but can provide a fuller view of options to those who need that perspective most.

Suppose we understood more about the early development of concepts about careers and could find ways to expand them and correct misleading stereotypes at early ages. Suppose that this expanded awareness could be carried forward and built upon into adolescence and young adulthood so that when career decisions are made, they are based on a wider vision of careers that exist now or may emerge in the future, especially for women and minorities. Against the powerful political and economic obstacles that block occupational equality for women and minorities, would this understanding of the early development of career awareness really matter? Until we try this route, it is impossible to tell. However, the following assumptions seem plausible: for children, the present invisibility of occupations imposes important restrictions on career choice; these restrictions operate with special force for girls and minorities; it is presently within our means to begin correcting these conditions.

Some would ask: Why arouse expectations that our institutions have no intention of meeting? We will not argue that our institutions show any visible readiness to meet the career aspirations of women and minorities. Neither are we willing to believe, however, that perpetuating ignorance and obliviousness is a reasonable course, even for the purpose of avoiding disappointment. Although it may be wise to keep this risk

in mind, society's stereotypes will not change until individuals' attitudes do, and vice versa. For it is, after all, individuals who form and direct our society. If any real progress is to occur, efforts must be made at both the individual and institutional levels. They are mutually reinforcing and mutually constraining.

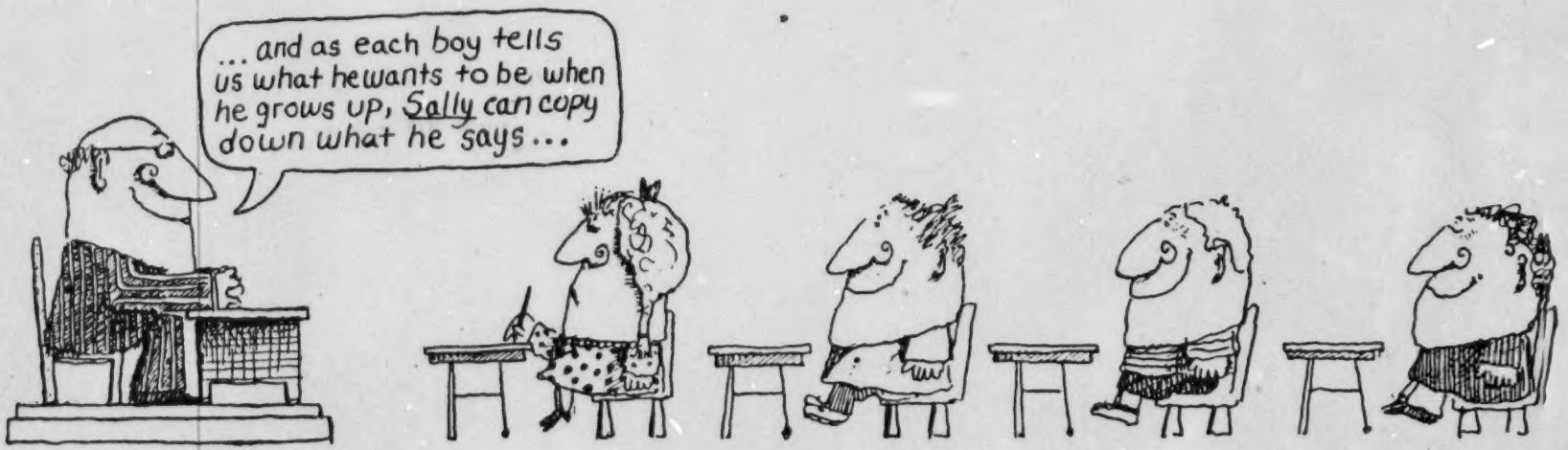
III. EXISTING CAREER AWARENESS CURRICULA

This part of our paper reviews existing career awareness curricula which have been constructed for children from preschool through the sixth grade. We will be rather detailed in our descriptions on the assumption that this will be helpful for those who undertake the development of new curricula. The organization has been determined by information contained in the second part of the paper.

We have presented evidence of clear disparities in our society in the occupations of men and women, and whites and members of minority groups. We have also documented the fact that at an early age children understand the status hierarchy of occupations and the characteristics of people who have traditionally filled them, and by and large accept this structure for themselves and their peers. Young white girls limit themselves to occupations such as mothers, teachers and nurses, reserving occupations such as doctor, police officer, and truck driver for boys. Young white boys also accept traditional roles for themselves and for their female peers. Our information for minority children is more limited, but it is clear that they need to be helped to attain a broader range of occupations including those which are more prestigious and monetarily-rewarding.

Given these facts about the adult world of work and young children's projections of themselves and others into this world, our examination of career education curricula will focus especially on the presentation of men and women, boys and girls, whites and nonwhites. However, many of the written descriptions of these curricula do not mention the race or sex of the people presented. Many do not even indicate that they have been concerned with this aspect of the curriculum. This in itself suggests that curriculum developers accept traditional occupational role assignments in devising their materials, or at least do not challenge these stereotypes.

The preceding research review also indicates that adolescents believe they have been most influenced by workers they know well. We assume that these workers provide the clearest examples of people holding a particular job and that children identify with them. We have, therefore, evaluated curricula for the extent to which they provide children with live and vicarious occupational role models. We found that the curricula could be divided into four categories, based on the primary method for delivering career education information: Public and Commercial Television, Instructional Television and Film, Commercial Film, and Classroom-based Instruction. Curricula in all four categories rely primarily upon vicarious


... and as each boy tells us what he wants to be when he grows up, Sally can copy down what he says ...

occupationsl role models, with the audiovisual media providing what we believe to be stronger models and a few of the classroom-based curricula introducing children to live occupational role models. Many curricula utilize more than one delivery method, but our review indicates when one of them is primary and the other(s) subsidiary.

The curricula we review vary along several dimensions besides methods of delivering information. These include: (1) career education as a separate curriculum unit versus infusion of career education information into other curricula; (2) focusing upon the variety of occupations that exist now versus preparing children for occupations (and indeed life-styles) which may be uncommon or nonexistent now; (3) didactic approaches to conveying information (where this is not viewed pejoratively) versus experiential approaches to acquiring information.

The curricula also express a variety of goals. Some attempt to teach children about various occupations -- what one does in each job. Others attempt to convey certain attitudes toward work -- work is rewarding, work demands perseverance, one needs to train for work. Still others try to teach children processes for deciding what work they will engage in -- one needs to compare one's interests with the activities of an occupation, one needs to evaluate one's skills in relation to those demanded by the job. And still others seek to show children that a wide variety of occupations is available to people regardless of their sex or ethnic background -- girls can be police officers, Puerto Ricans can be well-paid diamond cutters. Often curricula combine two or more of these goals, although one of them usually emerges as the central focus.

The descriptions of curricula which follow are not in a consistent form, from one to another. In some cases this is because we have not been able to obtain all the information which is apparently available about a program. In other cases it is because the information we seek would only be available if we did a content analysis of all curriculum materials. In still other cases, particularly with evaluations of effectiveness, it is because the information simply is not available. The full range of information which we have sought to present for each curriculum is: program name, developer, target population, means of delivery, goals, presentation of sex and race, and evaluation.

PUBLIC AND COMMERCIAL TELEVISION

Three programs designed for public or commercial television have included inserts about occupations. All three are designed for preschool or early elementary age children and do not have career awareness as their primary goal. All the inserts depict people at work,

giving young children an idea of what it is one does in various occupations. Designed for a mass audience viewing at home, these inserts represent some of the few attempts at career education with very young children.

SESAME STREET

Sesame Street, produced by The Children's Television Workshop in New York City, is designed primarily but not exclusively for disadvantaged, urban children between the ages of three and five. Since the first season in 1969 it has focused on helping children acquire cognitive skills. However, one of its subsidiary goals is teaching children about the roles of community members: "Given the name of certain roles in the family and in the community the child can describe approximate responsibilities associated with those roles" (Bogatz and Ball, 1971). Although Sesame Street is now in its seventh season, the discussion here will focus only on the first and second seasons since summative evaluations were conducted for them.

The roles and functions goal was translated into short program segments (between about 45 seconds and 2-1/2 minutes) which most often showed a person or a "muppet" engaged in one or another occupation or which described occupational activities in songs. One example is a short film of a white woman pediatrician examining a toddler. Another is a song describing what a doctor does in which Bob, an adult cast member, sings a duet with a male muppet dressed in traditional medical garb. While there is no evidence either way, a veteran viewer of Sesame Street has the impression that much of the early material presented men and women and ethnic groups (either humans or muppets) in "traditional" work roles and that more recent material has sought to broaden the traditional perspective.

Sesame Street publishes a magazine for children which provides additional visual material and suggests activities for children. Many of them require the assistance of an older child or adult. Content is not explicitly tied to televised segments on occupational roles and functions, and an unsystematic examination of the last two years' publications indicates that occupational information is only infrequently covered in the magazine.

In the first year, teaching about roles and functions of community members occurred during approximately 0.2% of the broadcast time, while in the second it occurred approximately 2.3% of the time (Bogatz and Ball, 1971). Much of the material was presented by the muppets (14.5% of the material), by people (23.2%), or by combinations of muppets and people (33.7%) (Bogatz and Ball, 1971). This goal area was not evaluated the first season. In the second season, it was evaluated by four items in both the pretest and post-test. Two of the items asked children "Who puts out fires?" and "Who brings letters?" and two asked them to identify objects used by a "fireman" and "mailman" (sic).

There was clear evidence that children who viewed one season of Sesame Street increased in their ability to answer these questions more than did children who did not view (Bogatz and Ball, 1971). Thus it seems that four-year-olds can learn the names for and the functions of various occupations from repeated exposure to short televised segments which are viewed at home without supervision.

THE KINGDOM OF COULD BE YOU

The Kingdom of Could Be You films were produced by Sutherland Learning Associates and broadcast on Captain Kangaroo during the spring of 1973. They are now available through the Encyclopedia Britannica Educational Corporation, which also provides Teacher Guides. The sixteen films are designed to provide preschool and early elementary school age children with information about occupations in the fifteen major occupational clusters devised by the Office of Education and to "deal with children's aspirations and abilities to become problem-solvers and doers in our society" (Encyclopedia Britannica Educational Corporation promotional sheet).

These goals are translated into five to six minute cartoons with a racially mixed cast of boys and girls. In a standard prologue to each cartoon the children are transported by a white wizard to his kingdom. There they encounter needs of their own or other's devising. The resolution calls for activities within one occupational cluster. The wizard serves to direct the children toward solutions which they may achieve on their own or as assistants to the inhabitants of the kingdom. In one or more of the cartoons the children basically observe the activities of the inhabitants. There is a large measure of fantasy in this series and the competency of the wizard is predominant. However, white, black, yellow and brown boys and girls are all portrayed as competent and there is the repeated, clear suggestion that children can grow up to hold many different occupations.

Surprisingly, this series is not widely publicized and was not even mentioned in the curriculum surveys we found. We were unable to acquire information about the development and evaluation of these films, although these are apparently available from the current distributor, Encyclopedia Britannica Educational Corporation.

VEGETABLE SOUP

Vegetable Soup, a series funded under the Emergency School Aid Act, was produced by the New York State Board of Education and began broadcasting on commercial and public stations in the fall of 1975. Its goal is to "help counter the negative, destructive effects of racial prejudice and racial isolation, and to reinforce and dramatize the positive, life-enhancing value of human diversity ..." (Informational Booklet, 1974). It is directed at children between the ages of four and eight and includes twenty-six mini-documentaries about majority and minority men and women in both high and low status jobs.

In practice this has meant that members of different ethnic groups who hold both stereotyped and non-stereotyped occupations are filmed while they work. A clear attempt has been made to present people in each ethnic group who hold both high and low status occupations and to emphasize the dignity and satisfaction one can find in any occupation. The films are short, ranging from approximately two to nine minutes. For example, one segment shows a Japanese-American man who produces records by electronically mixing separate recordings of himself singing and playing a variety of instruments. This segment is matched by one of a Japanese-American gardener. Another segment shows a Puerto Rican diamond cutter at work with his father. As the two of them work the voiceover explains the pleasures inherent in cutting a beautiful gem from a rough stone and in being well-paid for one's work. It is not possible to determine the ethnicity of the people in all twenty-six films but a review of the Parent-Teacher Guide (1975) indicates nine women and seventeen men were filmed and that three were Native Americans, three had Japanese surnames, two Chinese surnames, and eleven Hispanic surnames. The series clearly succeeds in presenting a diversity of people in a diversity of occupations.

A Vegetable Soup Parent-Teacher Guide (1975) is available for the series. It introduces the history and goals of the series and then describes the twelve categories of program material and the particular segments in each. At the end of each category are suggested activities and discussion topics. The guide ends with a list of the contents of all 78 shows. The relatively complete description of program content should assist parents and teachers in devising related activities.

Formative research was conducted during production (Graves and Nelson-Shapiro, 1974) and a summative evaluation of in-school viewing of sixteen half-hour shows has been carried out (Mays, Henderson, Seidman, and Steiner, 1975). Formative evaluations focused on whether or not children enjoyed the segment, understood the occupational information presented, and correctly labeled the ethnic identity of the main character. The three segments which were tested varied in how well they achieved any of the three goals for which they were tested, but all of them taught children something about what people do in various occupations and showed people holding these jobs who were recognizable members of minority groups (Graves and Nelson-Shapiro, 1974). The summative evaluation also indicated that children enjoyed the segments, but children who viewed the programs did not differ from non-viewers in the extent to which they assigned photographs of 24 boys and girls of different ethnic groups to stereotyped (or non-stereotyped) occupations (Mays, Henderson, Seidman, and Steiner, 1975).

INSTRUCTIONAL TELEVISION

In this section we will review five career education series produced during the last six years for instructional television. While they are designed for in-class use, they differ from curricula in the succeeding section in their reliance on an audiovisual presentation of information.

Four of them -- Career Awareness, Countdown to the 70's, Design for Living, and Whatcha Gonna Do -- were produced by regional (within state) systems and one -- Bread and Butterflies -- by a consortium. Three of them (Career Awareness, Countdown to the 70's, and Design for Living) use television to present information about specific occupations, while the two more recent ones (Whatcha Gonna Do and Bread and Butterflies) focus on attitudes, preparation, and decision-making processes which facilitate a rational orientation toward career options. In contrast to the segments designed for public and commercial television, the series discussed here are all aimed at older children. The youngest child for whom these programs are designed would be about nine years old and the oldest would be about fourteen.

CAREER AWARENESS

During 1971 and 1972, the Hazleton (Pennsylvania) School District produced the tested five "taped television presentations" about five different jobs which were to induce "a more positive attitude about work" in sixth and ninth grade students (Bernabei and Case, 1972). Only the presentations and evaluations for the sixth graders will be discussed here.

Each presentation focused on one occupational area: data processing, drafting, food service, printing/graphic arts, and welding. Information about tools used for the job, personal qualifications necessary for success in it, and the work environment was stressed. Each tape was between 15 and 30 minutes long. The description of this project gives no indication of the sex and ethnicity of the people who appeared in the films nor is there a teacher's manual available.

The success of these five tapes was evaluated with 50 sixth graders, 10 for each of the tapes. Students were pretested on the "attitude scale" for the tape they were going to see, shown the tape, and then post-tested -- all in one session. An examination of a sample attitude scale shows that most of the items dealt with specific knowledge about on-the-job activities, environment, and job qualifications, while a few dealt with evaluations of the occupations such as "boring," "tiring," "hard," and "do what he wants." The tapes varied in effectiveness with two producing significant pre- to post-test gains in information and attitudes and three producing no significant changes. The authors apparently did not do any *post hoc* analyses of the test items or video tapes to determine what accounted for the effectiveness of some of the tapes and not of others.

This project indicates that sixth graders can learn about various occupations from videotaped portrayals. It says little, however, about the characteristics of tapes which will produce significant increments in learning and of those that fail.

COUNTDOWN TO THE 70'S

Countdown to the 70's was developed during 1968-69 by the Atlanta (Georgia) City Schools. In 1971 it was selected for state-wide broadcast in Georgia and printed materials were adapted for use in Florida schools. The series consists of 33 tapes about 31 different occupational areas (two areas are represented by two tapes rather than one). They were designed for students in the upper elementary and middle grades. The goals of the series are:

1. To provide accurate occupational information to pupils in order that they may understand the various vocational opportunities that may be open to them in the future;

2. To demonstrate the role of work in the lives of people and to help pupils understand the role of work in their lives;

3. To help pupils develop positive attitudes toward work including a respect for all levels of work;

4. To motivate pupils to stay in school and to make realistic educational choices as they progress through high school;

5. To help pupils understand the significance of attitudes and good work habits in career development.

(Teacher's Manual, 1971)

Production of the series was partially guided by preliminary research with Georgian children in the third through eighth grades (Goodson, 1970). One hundred eighty children were interviewed about their occupational interests, knowledge, and attitudes. Without providing evidence for the assertion, Goodson states that the children relied on "associates" and the media for occupational information. She also notes that while a full 189 different occupations were listed by the children as a group, many children had very limited ideas of what occupations existed. Furthermore, only 48 of these jobs were chosen as occupational goals. Many children had difficulty supplying the title of an occupation and most felt that people worked to make money. Based on these interviews, the 33 television tapes provided examples of many different occupations, emphasized the title for each one, clearly indicated its duties, began with the most familiar occupations and then moved to the less familiar, and valued work of every level and type.

Each tape in the series focuses on one area of work, such as the hospital team, retailing, trucking, engineers, and the performing arts. It portrays the activities of a number of different occupations within the area. For instance, in the videotapes on performing arts, students are introduced to actors, actresses, dancers, musicians, singers, and set designers. In the trucking tape, students see drivers, mechanics, checkers, safety engineers, salesmen, and rate clerks. The characteristics of successful employees and future employment opportunities in the field are discussed

with emphasis given to the many openings which will exist in the future. Care was taken to present multiethnic models of both sexes.

A Teacher's Manual is available for the series with a separate section devoted to each tape, summarizing the purpose and major concepts of the tape. Activities before and after viewing are suggested, as are supplementary materials and community resources. Terms from the tape are listed and defined. Most of the activities, resources, and vocabulary focus on information exchange and discussion about the occupations. There is no attempt to infuse information or concepts into other curriculum areas and only a few suggestions are made for engaging children with hands-on materials or role-playing. A detailed manual was developed for use in Florida in which specific jobs are described in terms of activities, personal qualifications, and training for each of the thirty-one occupation areas.

We have not found published reports of evaluations of this series, beyond Goodson's (1970) formative research conducted prior to and during production. From evaluations of other programs, there is every reason to believe that this series would achieve its first goal of teaching children about various occupations. Whether it achieves the remaining four goals is more doubtful since there have been relatively few attempts to demonstrate the effective communication of attitudes and motivation. All this may be moot anyway, since the series is regarded in Atlanta as "ready for retirement" and has already been largely replaced by Bread and Butterflies, described later in this paper.

DESIGN FOR LIVING

Design for Living, developed by the Clark County School District in Las Vegas, Nevada, consists of fifteen-minute films about 22 different careers found in Nevada. The careers fit into 14 of the 15 occupational clusters developed by the Office of Education. Production began in 1972 with the films designed to fit into a career education curriculum for sixth grade students. (This curriculum is reviewed in the Classroom-based Instruction section). The goals of the film series are to:

1. Provide exploratory experiences for all students;
2. Assist the student in evaluating his interests, abilities, and attitudes;
3. Relate career planning to school experiences;
4. Develop an awareness of socioeconomic values.

(Design for Living, 1974)

Each film focuses on one person and was filmed on-the-job. Information is given about the activities involved in the occupation, necessary education and training for the job, and positive and negative aspects of it. For example, a film on ski instructors shows a husband and wife

working as an instructing team at Lake Tahoe, Nevada. They are shown giving instruction to individuals and groups of different ages and skill. Their skill as skiers and good physical condition are shown. The beauty of the environment, the pleasure in skilled physical performance and instruction, and the attractiveness of the people are shown along with the seasonal nature of the work, the necessity of adapting to a variety of people, and the limited employment opportunities.

Of the seventeen films for which summaries were provided, the sex of the main character is not given for three. In the remaining fourteen films men fill ten of the occupations, all traditionally held by males, women fill three of the occupations, all traditionally held by females, and a husband-wife team fill one of the occupations, which is traditionally held by men more often than women. There is no indication in the summaries of the race of the workers. As far as can be determined from the summaries and teacher's manual, the film format is appropriate for sixth graders, although the series would need to be tested to make a final determination.

The series includes a teacher's manual which describes the instructional objectives, gives a summary, and suggests related vocabulary, pre-film and post-film classroom activities, related school district films, local resource people and field trips, and related library books for each film. In addition it cross-references each film with the career education concepts in the classroom-based curriculum, suggests career awareness activities which are not tied to a particular film, and lists sources of career education information and materials.

There is no published evaluation of this film series or the entire curriculum package. From the material which has been reviewed before, it seems evident that the films could successfully communicate information about each occupation. Whether they would succeed in the other goals they put forth is uncertain.

WHATCHA GONNA DO

Whatcha Gonna Do was produced in the early 70's by WNVT-TV in Virginia. It is now licensed for national distribution by the Encyclopedia Britannica Educational Corporation. Aimed at intermediate and junior high school students, it consists of nine fifteen-minute color programs. Rather than giving children information about particular occupations, its goal is to show the relationship between the student's world and the world of work, stressing the ways in which a student's abilities, interests, and activities relate to the skills and functions found in adult occupations. The programs and manual are based on the following assumptions:

1. Career development is an outgrowth of self development;

2. The student learns by doing;

3. Learning has its origin in concrete experiences followed by abstractions;

4. An environment which provides concrete learning hums with student involvement;

5. Decision-making is a skill which can be developed;

6. A student's capacity is related to his self-concept;

7. Each student has unique interests and abilities which he should be allowed to pursue;

8. What a student <u>is</u> is more important than what he knows.

(Teacher's Manual, 1973)

The nine tapes focus on various components of the decision-making process of a student choosing a career: looking at the question, understanding oneself, drawing from one's experience, examining one's values as they relate to occupations, considering factors such as family and geographical location in career choice, creating new alternatives for oneself, recognizing and dealing with one's limitations, setting goals and planning strategies, and accepting changes. Each attempts to set up the issue for the child, to model one or more individuals engaged in decision-making about an occupation, and to provide the child with tools for considering the issue in his or her own life. For example, the program on factors affecting career choice shows how one woman came to value living in the country rather than in the city and chose to become a physician's assistant.

The Teacher's Manual briefly describes each program and suggests activities in three areas: (1) teacher-directed activities such as discussion questions, simulation games, and information-giving; (2) independent in-class student activities such as self-inventories, information "tests," and games, including layouts and answer-sheets where needed; and (3) independent, take-home student activities such as gathering information or opinions from family and friends, small business ventures, and observing community occupations. The activities stress occupational information and are not infused into other curricula. The manual provides students with concrete experiences which would serve as the origin of learning.

We have not found published reports of evaluations of this series. Of the two recommended sources of research and evaluation reports, one cannot be located and the other has minimal information, most of it of a promotional nature. The series would be interesting to evaluate since the television programs are well done and the manual suggests many concrete learning experiences for children. From an educational point of view, an evaluation of the programs alone, and in conjunction with the manual, would provide useful information on the extent to which children need both types of learning experiences.

BREAD AND BUTTERFLIES

Bread and Butterflies was produced in 1973-74 by a consortium of thirty-four educational and broadcasting agencies. It is distributed by the Agency for Instructional Television in Bloomington, Indiana. Aimed at children between the ages of nine and twelve, it consists of fifteen color programs, each of fifteen-minute duration. Like Whatcha Gonna Do, it attempts to develop in the student the self-concept, attitudes and personality characteristics which will facilitate wise career decisions and successful engagement in an occupation. The goals, as stated by the curriculum consultants, are to enable students to:

1. Express an increasingly positive self-concept;
2. Demonstrate some control over their lives and their life plans;
3. Develop objectivity in looking at self in relationship to others;
4. Demonstrate those personal and interpersonal skills essential to current and future work;
5. Demonstrate respect for others and the work they do;
6. Identify and explore a number of self-in-work options;
7. Demonstrate a developing concept of work by assuming responsibility;
8. Develop skills for processing and acting upon information about self-in-work;
9. Reorganize and describe the relationship and influences of current experiences and decisions to present and later career development;
10. Experience interrelatedness among school learnings to problems and activities outside of school.

(Curriculum Design Team Report, 1973)

These ten goals are represented in various combinations and with varying emphasis throughout the fifteen programs. The programs themselves present such themes as power and influence, the interdependency of workers, life styles, why one works, and shaping one's future. For example, the program on power and influence shows a day at school in which all adults are absent. The students confront the power vacuum, and try elections, rebel gangs, rewards and punishments, and guerilla warfare in their attempts to establish order. The show ends -- as do many -- with the dilemma unresolved but many of the issues cogently portrayed.

Program developers kept track of ethnicity in each program, striking a balance across the fifteen shows. They also deliberately depicted women in the nontraditional roles of oceanographer, telephone linesperson, surgeon, film director, and pig farmer. Our review of the program summaries suggested that men appeared more than twice as often as women and that the majority of the adults worked at fairly stereotypic jobs. We found that boys and girls were, however, featured about equally often. Depending upon your ideology, these characteristics can be interpreted as promoting equal occupational opportunities while not totally denying current realities or as continuing to support the current system by not countering it actively enough. Program developers were at least aware of these issues and careful and conscientious in their resolution of them.

The accompanying Curriculum Guide for Teachers describes each program and its theme, goal and purposes. It then describes questions and activities to be used by the teacher before and after viewing. Short-term and long-term activities which directly relate to program content and strategies for infusing the content into other curriculum areas are presented for students who have had little experience with career development and for students who are already familiar with the concepts. Although they are not explicitly divided this way, the activities range from teacher-directed, to in-class student-directed, to take-home activities, as did those for Whatcha Gonna Do.

A formative evaluation of five programs in the series was conducted by the Educational Testing Service (Flaugher and Knapp, 1974). They found the programs enormously appealing to children and teachers and able to stimulate active discussion of relevant issues. Four of the programs had particular flaws that were serious enough to require correction. The corrected versions were not re-evaluated, but they were surely improved on the basis of the formative research. The five programs subjected to formative evaluation largely failed to meet the educational objectives outlined by the curriculum team. This finding impelled the writers to build the objectives into the scripts for the remaining ten programs and to confine themselves to two or three clearly-addressed objectives per show. To our knowledge a summative evaluation of the series, including the ten later shows, has not been conducted.

COMMERCIAL FILM

Our examination of commercial films must be incomplete due to the large number of production groups and distributors, the apparent focus on career education material for junior and senior high school students, and the generally poor quality of commercial films we found for children in the primary grades. It seems that a teacher who looks to commercial groups for career education material for young children will most often find individual films, rather than a series, which present information about one occupation or a set of occupations in one occupational cluster.

Some attention may be given to occupational attitudes, but little would be given to decision-making processes or to reducing the stereotyping of occupations.

The material we examined was in fact quite stereotyped in its presentation of sex-roles. For example, one distribution group has a promotional brochure for career awareness films for children in elementary school in which the content of a few films is summarized as men, machines, materials, and processes, and others simply show men at work. The sex stereotyping of these films is most apparent in companion films describing what mothers and fathers do:

1. some mothers must work away from home to support their families;
2. some families do not have a father to earn money, so the mother must earn enough money to take care of herself and her children;
3. the money that a mother earns from a part-time job helps her husband pay for more services and goods for the family;
4. some fathers work for themselves, and some fathers work for other people;
5. in every community fathers are busy at work earning money to take care of their families;
6. each job is important, for it helps provide services and products.

Stereotyping of ethnic groups is most notable in the general absence of minorities from the films. The one instance we found of career awareness materials which included an obvious minority was a series of six attractive multimedia kits for the primary grades. The filmstrip in each kit portrays one person in one occupation. There is a white male baker, construction worker, firefighter, and taxi driver. Then there is a black male letter carrier, and a white female nurse. In this way these kits can directly communicate information about occupational activities and indirectly communicate information about the "proper" roles of women and minorities.

All in all, our examination of commercial films is disappointing. There is a multiplicity of brochures to inspect and a paucity of planned curricula to find. What one does find presents stereotyped occupational roles for men and women and excludes minorities.

CLASSROOM-BASED INSTRUCTION

There are many classroom-based curricula which do not rely on audio-visual materials. Several for the elementary grades have sprung up within the last few years. Most focus upon providing children with experiences which promote self-understanding, develop "appropriate" attitudes toward the world of work, or demonstrate characteristics of the world of work such as balancing costs and profit, cooperation and competition, and the assembly line. Only a few devote much attention to the provision of

occupational role models for children or of information about the duties of specific occupations. Very few indeed express any intention of combating stereotyped views of appropriate occupational roles for men and women, whites and nonwhites.

The curricula vary considerably in the ways they were designed and implemented. Some were designed by a few specialists who devised themes, goals, and activities, often with the assistance of a group of teachers. Others were designed by individual teachers and then organized into a coordinated curriculum by career education specialists. Others are simply a compilation of activities contributed by individual teachers and schools or a report of one school's or school system's activities. In a few cases, implementation was closely supervised and partially carried out by specialists who participated in curriculum design. In many more cases, curriculum goals and ideas were transmitted to classroom teachers who then used them in their own ways.

Most of the curricula are just that -- curricula, without adequate reports of their implementation and evaluations of their effects. Perhaps this is to be expected when requisite resources of time and money are as limited as they are and when many of the curricula have only recently been developed. We do not believe that a curriculum is useless simply because it has not been fully evaluated, since the development of an interesting and informative curriculum is an achievement in itself. Nonetheless, evaluation is necessary in deciding whether to continue development, whether to develop new curricula along the same lines, whether to continue to use the curriculum in school, and the level of resources to commit to these activities. A recent review by master teachers of 66 curricula and sets of materials for career education for children between kindergarten and twelfth grade points up the need for evaluations of children's responses. Only 15 were judged by the teachers to be appropriate for the intended grade levels (Borman and Stenning, 1974).

Our description of classroom-based curricula will be different from descriptions in preceding sections of this paper for two reasons. First, the number of classroom-based curricula which do not rely on audiovisual material is far too large for us to review each project individually. For example, we have summary reports of 40 research and development career education projects for elementary school students which were funded by the Office of Education in fiscal year 1973 and teacher guides or descriptions of at least ten more curricula. Second, at most a handful of these projects show any concern for stereotyping of occupational roles by sex or ethnicity, even with a broad definition of concern. We did not find curriculum goals of altering stereotyped views of the world of work, statements within the curriculum cautioning a teacher to attend to stereotyping in the information, activities, and materials he or she used, or materials or activities designed to provide non-stereotyped views of occupational roles. Given this plethora of programs and their apparent inattention to stereotyping of occupational roles, we have elected to limit our descriptions in this section.

In what follows we will describe two limited curriculum efforts which have been evaluated and then describe a number of other curricula which apparently have not been evaluated. The Ohio State Department of Education curriculum will be presented in some detail to serve as an example of classroom-based instruction with multiple goals and units. A number of other similar projects will then be summarized. Finally, a few programs which focus on providing occupational role models for children will be described.

CURRICULA WITH EVALUATIONS

Harkness (1973) introduced her own curriculum into the fourth, fifth, and sixth grades of an elementary school in Virginia. In each grade there were about equal numbers of boys and girls and blacks and whites, with a total of 148 children. The curriculum consisted of six thirty-minute lessons conducted over a six-week period and covering the following topics: Occupations in a shopping center, Informational sources for an occupational scrapbook, Occupations in the school and occupational groupings, Jobs women can do, Job training from high school on, and Role playing of occupations.

One week prior to introduction of the unit children were tested on the hour-long Harkness Occupational Knowledge and Attitude Scale for Children which consisted of seven subtests of occupational knowledge (e.g., parents' occupations, occupational titles and duties, occupations for women) and three subtests of attitudes (e.g., occupational prestige, distaste for some occupations, and understanding of the nature of one's own occupational choice).

Post-testing was conducted with the same instrument at the end of the six-week curriculum. All children increased substantially in their occupational knowledge and attitudes. There were no significant differences in learning due to sex or grade level. About a quarter of both the girls and boys changed their occupational choices, but there is no indication of the nature of these changes. While noting that girls were severely limited in the occupations they chose for themselves, the author does not report whether the one unit on occupations for women or the full curriculum had any effect on the girls' perceptions of occupations for themselves or other women.

A second example of a "curriculum" which was evaluated is provided by Barclay (1974). In this instance 64 kindergarteners, about evenly divided between boys and girls and suburban and inner-city areas, were assigned to one of three treatment conditions: control, books with positive presentations of working women, and career information pamphlets with no reference to the sex or workers. No mention is made of ethnicity in the description of treatments. Treatments were administered for fifteen-minutes a day on three successive days. Before and after the three sessions children were asked to place either or both a male and female paper doll in pictures of vocational situations in which the child thought either or both belonged. Twenty occupations were presented with the total description in the report

being that three of them were stereotypically female, "many were predominantly identified with males ... and some were usual occupations for either sex."

The author does not report the extent to which boys and girls at either the pretest or the post-test stereotyped their assignment of men and women to occupations. She only reports the total number of times men were chosen for an occupation and the total number of times women were chosen. Both before and after treatment, men were chosen considerably more than women, about 85% of the occupations versus about 35%. Children clearly stereotyped occupations for men and women both before and after treatments. The stories which emphasized working women did, however, make a significant difference in children's willingness to say that a woman could do a job. The fact that only the stories about working women affected children's perceptions of jobs women could do and that they did not affect their perceptions of jobs men could do is a tribute to the good sense of young children. They will only be influenced when we are clear about what we are trying to communicate -- and sometimes they won't even be influenced then.

OHIO STATE CAREER DEVELOPMENT PROGRAM

The Ohio State Department of Education has been involved since the mid 60's in the development and implementation of its current career education program. It is divided into three primary phases: Career Motivation for kindergarten through sixth grade, Career Orientation for seventh and eighth grade, and Career Exploration for ninth and tenth grade. The goal of career motivation in the early grades, the phase we are most interested in, is "to develop in all youth an awareness and appreciation of the world of work and motivation to be a part of the world of work" (Career Motivation Curriculum Guide, 1972). It was first instituted in the schools in 1970 and now probably reaches between 10% and 25% of elementary students in the state. This program will be reviewed in some detail as an example of a particular approach to career education. It was chosen because it has been developed over a number of years, input has come from many different practitioners, implementation has been carried out in a number of school districts, the suggested activities are similar to those in other curricula, and we had fairly complete information about it. Other similar programs will subsequently be presented in considerably less detail.

The Curriculum Guide is directed toward the elementary school teacher. Seven broad areas are covered. For kindergarten through grade four, the topics are the individual and his environments, the world of work, self, and economics. For grades five and six, the topics are education and training, employability and work adjustment, and vocational decision-making. For each area, a developmental objective is stated, followed by related behavioral objectives, suggested activities, and a sample lesson. The activities center on career education without infusing them into other curricula. The goals and activities were apparently obtained from a curriculum workshop in 1971 and from material subsequently developed by career

education projects throughout the state. The state has an active program of soliciting funding applications from school districts for the development of particular career education projects, and many school systems apparently contributed.

A sample unit from the world of work for kindergarten through second graders has the developmental objective of eliciting "an awareness of the variety of occupations represented by the children's parents." The behavioral objectives are that children will be able to state whether the work of their parents relates to people, data or things, and that children will be able to work to construct a bulletin board of parental occupations. The suggested activities are to have each child name his or her parents' jobs and to use these to make a bulletin board with jobs classified by material worked with, to have a panel of working parents visit the classroom, and to visit two family-operated businesses. A sample lesson on role playing a family member's work is described in detail.

The structure and level of specificity of each unit are similar to the one we just described, with the content obviously differing according to the goal area and developmental objective. The majority of the goals and activities do not seem to focus on particular occupations. Nowhere in our review of the curriculum guide did we find an indication that particular attention was paid to stereotyping of occupational roles by sex or ethnicity. The unit we just described is an obvious one for such attention yet none seems to be given.

Major emphasis has been placed upon curriculum development rather than upon an evaluation of effectiveness. Submitted material is apparently evaluated for congruency between stated goals and suggested activities, and teachers undoubtedly do not submit suggestions which have not seemed to be effective in the classroom. No evaluation other than these has, however, been reported.

SIMILAR CURRICULA

Curricula similar to that developed in Ohio have been developed elsewhere, often through similar procedures. The state of Maine published a curriculum guide for career education in kindergarten through twelfth grades (Maine Curriculum Guide, 1973) which consists of activities suggested by teachers throughout the state. Wisconsin introduced career development activities into the curriculum of thirty-five school districts (Drier, 1972). New Jersey established a rationale and goals for career development with elementary school children. The Guidebook suggests activities similar to those in the Ohio State Curriculum Guide but also devotes considerable attention to explicating and illustrating occupations in seven job families (The World of Work, 1969). The Fort Wayne (Indiana) Community Schools have put forth a career development program model which suggests personnel who should be involved in career education and their interrelationships, goals for education and career development, and specific goals and activities for four different age groups including elementary

school (Total Career Capability for All, 1970). The Clark County (Las Vegas, Nevada) School District developed a career education program which is combined with an ethnic and culture studies program for sixth graders. As part of this curriculum, the Design for Living films which were described in the section on Instructional Television were produced (Design for Living, 1974). None of these give clear indications in their goals, in directions to users, or in the suggested activities and materials of confronting the issue of the current stereotyped distribution of occupational roles for men and women, whites and members of minority groups.

Our list could go on, but we think it more prudent to stop after a brief discussion of two curricula which are still being developed and of three curricula which were designed to bring children into contact with people who worked. The two development efforts which seem to merit additional investigation are the Enrichment of Teacher and Counselor Competencies in Career Education Project (ETC) and the Comprehensive Career Education Model.

CURRICULA UNDER DEVELOPMENT

The ETC is directed by Marla Peterson at Eastern Illinois University. At the time of field testing four guides of activities to be infused into other curricula were available: Coping Behaviors Dimension Guide, Decision Making Dimension Guide, Self-Development Dimension Guide, and Life-Style Dimension Guide (Enrichment of Teacher and ..., 1974). As a result of field testing the guides are being reorganized so that the four dimensions will be presented together in age-specific activities for kindergarten through second grade, third and fourth grade, and fifth and sixth grade. Many of the activities in the original guides are similar to those described for the Ohio State curriculum. While the curriculum does not address occupational stereotyping specifically, all illustrations and text were reviewed by women and minority group members. Also, users are asked to modify materials they feel may be stereotyped and to be alert to possible stereotyping in publications listed in the bibliographies.

The Center for Vocational and Technical Education at Ohio State University has for a number of years been involved in the development of a Comprehensive Career Education Model. The original objectives were to develop and implement comprehensive career education programs which structured the entire school program for children from kindergarten through two years after high school. Six school districts throughout the country have participated in the development of the curriculum and served as sites for field tests of the material. The original goals of the project were to develop in children an awareness of career options, attitudes and personal characteristics which support training for and entry into an occupation, an understanding of the relationship between work and education, and the ability to enter an occupation or continue education after graduation from high school. Because the effort to develop the curriculum has persisted over a number of years and extended to a variety of geographical areas, further developments in the curriculum and evaluations of it would be worth following.

CURRICULA PROVIDING ROLE MODELS

In our search for curricula we found only three reports of programs which focused on bringing elementary school children into contact with occupational role models (Bank, 1969; Kaback, 1966; Wernick, 1972). All emphasized the young child's need for concrete examples of work and workers and suggested various ways to provide such examples. Only one explicitly attempted to provide minority or female occupational role models (Bank, 1969). We will review this program, since the most complete description is available for it.

In the program described by Bank (1969) representatives of various occupations within a particular cluster visited classrooms dressed in working clothes and carrying tools where appropriate and possible. Visitors discussed their jobs and answered questions from students. Reinforcing activities, such as filmstrips, role-playing, and collecting pictures of jobs, were conducted both before and after the visits. Different occupational clusters were emphasized at each grade beginning with the most familiar in kindergarten: occupation models in school, models who help feed us, models who protect health and promote beauty, models who provide shelter and protect us, models who provide transportation, models who provide communication, and models who provide for business. A student who participated in the program for six years would encounter representatives of 42 different occupations. School staff brought in many black occupational role models, but the report does not indicate the occupations blacks held or the extent to which other minority groups or women were represented. Bank reports anecdotal evidence that the curriculum influenced children's understanding of career options and choices among them.

CONCLUSION

Our review of career awareness curricula leads us to the following generalizations. First, there is a wide range of classroom-based curricula currently available or under development which has no significant audiovisual component. Many fewer curricula rely on audiovisual presentations. Second, older curricula and those aimed at very young children are more likely to introduce children to particular occupations and people working at them while newer curricula and those aimed at older children are more likely to view this as an adjunct to teaching children attitudes about work, the relationship between education and work, and decision-making skills. Third, very few of the curricula have been subjected to a standard evaluation of their effectiveness. The fourth generalization, an important one for this paper, is that the views of the occupational roles of men and women, whites and minorities, presented by most curricula are difficult to determine. Those we have been able to evaluate apparently do not challenge the traditional structure.

These generalizations and ideas sparked by some of the curricula have influenced our recommendations for research and programmatic activities. A number of the curricula which we have described clearly merit continued use or further development. We look forward to seeing them -- along with new career awareness curricula -- in use at home and at school. They can help prepare our children for a broader range of careers than we have been able to achieve.

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